EAGLE

IntelliMap® 642c iGPS
Mapping GPS Receiver
Installation and Operation Instructions

For free owner's manuals and the most current information on this product, its operation and accessories, visit our web site:

www.eaglegps.com

Eagle Electronics
P.O. Box 669
Catoosa, OK USA 74015
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Table of Contents

WARNING!
**A CAREFUL NAVIGATOR NEVER RELIES ON ONLY ONE METHOD
TO OBTAIN POSITION INFORMATION.**

CAUTION
*When showing navigation data to a position (waypoint), a GPS unit will show
the shortest, most direct path to the waypoint. It provides navigation data to the
waypoint regardless of obstructions. Therefore, the prudent navigator will not
only take advantage of all available navigation tools when traveling to a way-
point, but will also visually check to make sure a clear, safe path to the waypoint
is always available.*

WARNING!
**When a GPS unit is used in a vehicle, the vehicle operator is solely re-
sponsible for operating the vehicle in a safe manner. Vehicle operators
must maintain full surveillance of all pertinent driving, boating or fly-
ing conditions at all times. An accident or collision resulting in damage
to property, personal injury or death could occur if the operator of a
GPS-equipped vehicle fails to pay full attention to travel conditions and
vehicle operation while the vehicle is in motion.**

Section 1: Read Me First!

How this manual can get you out on the road, fast!

Welcome to the exciting world of digital GPS! We know you're anxious to begin navigating, but we have a favor to ask. Before you grab the IntelliMap® 642c iGPS and begin installing it, please give us a moment or two to explain how our manual can help you get the best performance from your compact, wide-screen, mapping GPS receiver.

First, we want to thank you for buying an Eagle GPS unit. Whether you're a first time user or a professional fisherman, you'll discover that your IntelliMap 642c iGPS is easy to use, yet capable of handling demanding navigation tasks. When you team your unit with our custom mapping software MapCreate™ 6, you have an incredible combination. You won't find another GPS unit with this much power and this many features for this price!

Our goal for this book is to get you on the road fast, with a minimum of fuss. Like you, we'd rather spend more time navigating and less time reading the manual!

So, we designed our book so that you *don't* have to read the *whole thing* from front to back for the information you want. At the start (or end) of each segment, we'll tell you what content is coming up next. If it's a concept you're already familiar with, we'll show you how and where to skip ahead for the next important topic. We've also made it easy to look up any tips you may need from time to time. Here's how:

The manual is organized into 7 sections. This first section is an introduction to Eagle GPS. It tells you the basics you need to know before you can make the unit look around and tell you where you are.

Section 2 will help you install your unit. We'll show you how to get the MultiMedia Card (MMC) correctly installed inside the unit. We'll also tell you about some of the available accessories.

Section 3 covers *Basic GPS Operation*. It will show you how easy it is to run the IntelliMap 642c, right out of the box. This section features a one-page GPS Quick Reference. **(If you've already jumped ahead and figured out how to install the unit yourself, and you just *can't* wait any longer, turn to the Quick Reference on page 34 and head for the road with your GPS unit!)**

Section 3 contains short, easy-to-scan GPS lessons that follow one another in chronological order. They're all you'll need to know to find your way on the water or in the wilderness quickly.

After you've learned the basics (or if you already have some GPS experience), you may want to try out some of the IntelliMap 642c's many advanced navigation features. That brings us to Section 4, *Advanced GPS Operations*. This section contains the rest of the unit's GPS command functions, organized in alphabetical order.

When you come to a GPS menu command on the IntelliMap 642c's screen, you can look it up in the manual by skimming over the table of contents, just flipping through Section 3 or scanning through the command portion of Section 4.

This unit is ready to use right out of the box, but you can fine tune and customize its operation with dozens of options. We describe how to use general system options along with GPS options in Section 5, *System Setup and GPS Setup Options*. Section 5 is organized in alphabetical order.

In Section 6, we go into more detail on one of the IntelliMap 642c's most remarkable capabilities — Searching. We'll introduce a search example in the Basic GPS Operation section, but there are so many map items you can search for, we had to give this function its own section in the manual! For example, did you know this unit can look up business phone numbers, functioning as a virtual Yellow Pages? We'll show you how in Section 6.

Finally, in Section 7, we offer *Supplemental Material*, including a list of the GPS datums used, warranties and customer service information.

Now, if you're into the fine details, glance over the next segment on specifications to see just how much GPS power your IntelliMap 642c contains. It's important to *us* (and our power users), but, if *you* don't care how many watts of power the unit has, or how many waypoints it can store, skip ahead to important information on how our GPS works, on page 4.

Capabilities and Specifications:

General

Display:............................ 5.0" (12.7 cm) diagonal color TFT LCD; programmable to viewing preference.

Resolution:....................... 640 pixel x 480 pixel resolution; 307,200 total pixels.

Backlighting:................... Backlit screen and keypad with multiple lighting levels for night use.

Input power:................... 10 to 15 volts DC.

Current drain: .... With lights on: 700 ma.

Case size:......................... 5.4" H x 6.9" W x 3.4" D (13.8 x 17.6 x 8.6 cm); sealed and waterproof; suitable for saltwater use.

MMC slots: .... One with waterproof door (SD card compatible).

Recording:........................ MMC & SD cards for recording GPS trip details and displaying charts or custom maps.

Back-up memory:.......... Built-in memory stores GPS data for decades. User settings are stored when unit is turned off.

Languages:...................... 10; menu languages selectable by user.

GPS

Receiver/antenna:......... Internal; Built-in 12 parallel channel GPS/WAAS .

Background map:.......... Built-in custom, detailed Eagle map. Contains: enhanced detail of continental U.S. and Hawaii. Includes more than 60,000 nav aids and 10,000 wrecks/obstructions in coastal and Great Lakes waters. Metro areas, selected major streets/highways and interstate exit services details included.

Custom mapping:.......... MapCreate™ 6 software optional; optional plug and play LEI FreedomMaps™ offer the same high-detail without the computer work of MapCreate. Other plug and play mapping options include Fishing Hot Spots® Elite, LakeMaster ® Pro Maps, LEI NauticPath™ marine charts and Navionics® marine charts.

Mapping memory:......... Up to 2 gigabytes on one MMC (or SD) card.

Position updates: .... Every second.

Position points: .... 1,000 waypoints; 1,000 event marker icons.

Audible alarms: .... Arrival/off-course/anchor.

Graphic symbols for waypoints or event marker icons:................. 42.

Routes:............................. 100, up to 100 waypoints per route.

Plot Trails:...................... 10 savable; up to 10,000 points per trail.

Zoom range:.................... 40 ranges; 0.02 to 4,000 miles.

NOTE:

The above memory capacities refer only to the IntelliMap 642c's on-board memory. The amount of GPS data you can record and save for recall later is limited only by the number and size of MMC cards you have.

NOTICE!

The storage temperature range for your IntelliMap 642c is from -4 degrees to +167 degrees Fahrenheit (-20 degrees to +75 degrees Celsius). *Extended storage in temperatures higher or lower than specified will damage the liquid crystal display in your unit. This type of damage is not covered by the warranty.* For more information, contact the factory's Customer Service Department; phone numbers are listed on the last page of this manual.

How GPS Works

You'll navigate faster and easier if you understand how the IntelliMap 642c scans the sky to tell you where you are on the earth – and, where you're going. (But if you already have a working understanding of GPS receivers and the GPS navigation system, skip on ahead to Section 2, *Installation & Accessories* on page 11. If you're new to GPS, read on. You can later impress your friends with your new-found knowledge.)

First, think of your unit as a small but powerful computer. (But don't worry — we made it easy to use, so you don't need to be a computer expert to find your way!) The IntelliMap 642c includes a keypad and a screen with menus so you can tell it what to do. The screen also lets the unit show your location on a moving map, as well as point the way to your destination.

This gimbal-mounted IntelliMap 642c uses an internal antenna/receiver module, which makes the whole system work something like your car radio. But instead of your favorite dance tunes, this receiver tunes in to a couple of dozen GPS satellites circling the earth. (It will also listen in to the WAAS satellites in orbit, but more about that in the upcoming segment introducing you to GPS and WAAS.)

Your unit listens to signals from as many satellites as it can "see" above the horizon, eliminates the weakest signals, then computes its location in relation to those satellites. Once the IntelliMap 642c figures its latitude and longitude, it plots that position on the moving map shown on the screen. The whole process takes place several times a second!

The performance doesn't stop there. Stored in the permanent memory of each unit is a basic background map of the *entire* world. We lock it in here at the factory — you can't change or erase this map.

The background map is suitable for many navigation chores, but for maximum accuracy and much more detail, you need our optional map-making software, MapCreate™ 6, or one of our special plug-and-play mapping cards. Some unit features — such as searching for businesses and addresses — won't work without a custom MapCreate map. There is so much detail in our background map (and even more in MapCreate) that we'll describe their contents and differences in Section 3, *Basic GPS Operations*, on page 30.

Another portion of the IntelliMap 642c's onboard memory is devoted to *recording* GPS navigation information, which includes waypoints, event marker icons, trails and routes. This lets you look back the way you came. Think of this data storage like the hard drive memory in a computer or a tape in a cassette tape recorder. You can save several different GPS data files, erase 'em and record new ones, over and over again. Like any computer file, these **GPS Data Files** (file format *.usr) can be shared between Eagle GPS or sonar/GPS units or even personal computers.

This IntelliMap 642c has one more thing in common with a personal computer. Just as computers have a floppy disk drive for storing and exchanging files, the unit has a slot for an MMC (MultiMedia Card) or SD card (Secure Digital card) flash memory card. These solid-state memory devices are about the size of a postage stamp, but can hold data ranging from 8 MB to 1 GB in size. (Compare that to a floppy disk's 1.44 MB capacity!) This unit uses all that MMC space for two key GPS purposes.

First, you can backup your onboard GPS Data Files by copying them to the MMC. Since the MMC is removable (like a floppy disk or a cassette tape), you can store these GPS Data Files on a personal computer equipped with an MMC card reader. (Or store them on a pocketful of MMCs, if you don't have a computer.) Our MapCreate mapping software can save, edit or create its own GPS Data Files, which can be copied to the MMC and then loaded from the MMC into the unit's memory. (**NOTE:** No matter where they come from, GPS Data Files *must* be loaded from the MMC into memory before the IntelliMap 642c can use them.)

The other key GPS use for MMCs is storage of special high-detail, custom maps, which you can produce on your computer with our MapCreate software. These MapCreate custom maps contain much greater detail than the basic background map. These **Custom Map Files** (file format *.lcm) can also be shared between Eagle GPS or sonar/GPS units and personal computers.

This unit automatically reads Custom Map Files directly from the MMC or SD card. To use a custom map, all you need to do is slide an MMC containing a map into the IntelliMap 642c.

Introduction to GPS and WAAS

Well, now you know the basics of how the unit does its work. You might be ready to jump ahead to Section 2, *Installation & Accessories,* on page 11, so you can mount your IntelliMap 642c and plug in the power. Or you might want to see how our text formatting makes the manual tutorials easy to skim. If that's the case, move on to "How to Use This Manual" on page 8. But, if you want to understand the current state of satellite navigation, look over this segment describing how GPS and its new companion WAAS work together to get you where you're going.

The Global Positioning System (GPS) was launched July 17, 1995 by the United States Department of Defense. It was designed as a 24-hour-a-day, 365-days-a-year, all weather global navigation system for the armed forces of the U.S. and its allies. Civilian use was also available at first, but it was less accurate because the military scrambled the signal somewhat, using a process called Selective Availability (SA).

GPS proved so useful for civilian navigation that the federal government discontinued SA on May 2, 2000, after the military developed other methods to deny GPS service to enemy forces. Reliable accuracy for civilian users jumped from 100 meters (330 feet) under SA to the present level of 10 to 20 meters (about 30 to 60 feet.)

Twenty-four satellites orbit 10,900 nautical miles above the Earth, passing overhead twice daily. a series of ground stations (with precisely surveyed locations) controls the satellites and monitors their exact locations in the sky. Each satellite broadcasts a low-power signal that identifies the satellite and its position above the earth. Three of these satellites are spares, unused until needed. The rest virtually guarantee that at least four satellites are in view nearly anywhere on Earth at all times.
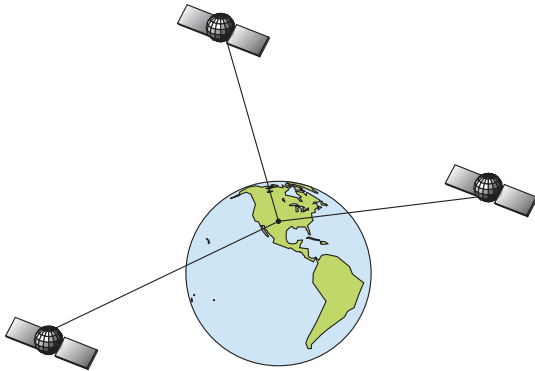
A minimum of three satellites are required to determine a 2D fix.

The system requires signal reception from three satellites in order to determine a position. This is called a 2D fix. It takes four satellites to determine both position and elevation (your height above sea level — also called altitude). This is called a 3D fix.

Remember, the unit must have a clear view of the satellites in order to receive their signals. Unlike radio or television signals, GPS works at very high frequencies. These signals can be easily blocked by trees, buildings, an automobile roof, even your body.

Like most GPS receivers, this unit doesn't have a compass or any other navigation aid built inside. It relies solely on the signals from the satellites to calculate a position. Speed, direction of travel, and distance are all calculated from position information. Therefore, in order for the IntelliMap 642c to determine direction of travel, you must be moving and the faster, the better. This is not to say that it won't work at walking or trolling speeds — it will. There will simply be more "wandering" of the data shown on the display.

GPS alone is plenty accurate for route navigation, but the U.S. Federal Aviation Administration has special aircraft navigation needs that go beyond basic GPS. Consequently, the FAA has developed a program to boost GPS performance with its Wide Area Augmentation System (WAAS). The FAA commissioned the system on July 11, 2003.

WAAS is designed to increase GPS accuracy to within 7.6 meters vertically and horizontally, but according to the FAA, it consistently comes within 1-2 meters horizontally and 2-3 meters vertically. It does this by broadcasting correction signals on GPS frequencies. Your unit automatically receives both GPS and WAAS signals.

There are, however, some fringe areas of the U.S., including parts of Alaska, that do not yet receive robust WAAS coverage. Continued WAAS development is planned to extend WAAS coverage in the years to come.

WAAS boosts the accuracy of land GPS navigation, but the system is designed for aircraft. The satellites are in a fixed orbit around the Equator, so they appear very low in the sky to someone on the ground in North America. Aircraft and vessels on open water can get consistently good WAAS reception, but terrain, foliage or even large man-made structures can sometimes block the WAAS signal from ground receivers.

You'll find that using your GPS receiver is both easy and amazingly accurate. It's easily the most accurate method of electronic navigation available to the general public today.

Remember that this receiver is only a tool. Always have another method of navigation available, such as a map or chart and a compass.

Also remember that this unit will always show navigation information in the shortest line from your present position to a waypoint, regardless of terrain! It only calculates position, it can't know what's between you and your destination, for example. It's up to you to safely navigate around obstacles, no matter how you're using this product.

How to use this manual: typographical conventions

Many instructions are listed as numbered steps. The keypad and arrow "keystrokes" appear as boldface type. So, if you're in a real hurry (or just need a reminder), you can skim the instructions and pick out what menu command to use by finding the boldface command text. The following paragraphs explain how to interpret the text formatting for those commands and other instructions:

Arrow Keys
The arrow keys control the movement of dotted cross-hair lines on your mapping screen called the cursor. The arrow keys help you move around the menus so you can execute different commands. They are represented by symbols like these, which denote the down arrow key, the up arrow, the left arrow and the right arrow: ↓ ↑ ← →.

Keyboard
The other keys perform a variety of functions. When the text refers to a key to press, the key is shown in bold, sans serif type. For example, the "Enter/Icons" key is shown as **ENT** and the "Menu" key is shown as **MENU**.

Menu Commands
a menu command or a menu option will appear in small capital letters, in a bold sans serif type like this: **ROUTE PLANNING**. These indicate that you are to select this command or option from a menu or take an action of some kind with the menu item. Text that you may need to enter or file names you need to select are show in italic type, such as *trail name*.

Instructions = Menu Sequences
Most functions you perform with this unit are described as a sequence of key strokes and selecting menu commands. We've written them in a condensed manner for quick and easy reading.

For example, instructions for navigating a trail would look like this:

1. From the Map Page, press **MENU|MENU|↓** to **MY TRAILS|ENT**.

2. Press **↓** to *Trail 1*|**ENT**|**→**|**↓** to **NAVIGATE|ENT**.

3. You are asked to wait while it converts the trail into a route.

4. The wait message disappears and the IntelliMap 642c begins showing navigation information along the trail. Now, begin moving and follow your IntelliMap 642c.

Translated into complete English, step 1 above would mean: "Start on the Map Page. Press the Menu key twice. Next, repeatedly press (or press and hold) the down arrow key to scroll down the menu and select (highlight) the My Trails menu command. Finally, press the Enter key."

Step 2 would mean: "Press the down arrow key repeatedly to scroll to the trail named Trail 1, and press Enter. Next, press the right arrow key and then the down arrow key to highlight the Navigate command, then press Enter."

Notes

Section 2:
Installation & Accessories

Preparations

You can install the GPS system in some other order if you prefer, but we recommend this installation sequence:

Caution:

You should read over this entire installation section before drilling any holes in your vehicle or vessel!

1. Determine the approximate location for the GPS unit, so you can plan how and where to route the power cable. This will help you make sure you have enough cable length for the desired configuration.

2. Determine the location of your battery or other power connection, along with the power cable route.

3. Install the power cable and route it to the GPS unit.

4. Mount the GPS unit.

The IntelliMap 642c uses an internal antenna to achieve a GPS lock. In order to get a strong signal, you need to select a mounting location that has a clear, unobstructed view of the sky.

NOTE:
The IntelliMap 642c is designed for open-cockpit boats, but the unit will probably work in an automobile or a closed-cockpit boat *if it's mounted with a clear view through the windshield or other windows*. This probably will not work if you have a cab-over design pickup truck camper or motor home, or a boat cabin with limited visibility. Remember: for optimum operation, this unit should be mounted in the open with nothing obstructing its view of the sky.

Power Connections

The IntelliMap 642c works from a 12-volt battery system. For the best results, attach the power cable directly to the battery. You can attach the power cable to an accessory or power bus, but you might have problems with electrical interference. Therefore, it's safer to go ahead and attach the power cable directly to the battery.

CAUTION:

When using the unit in a saltwater environment, we strongly recommend that you shut off the power supply to the power cable when the unit is not in use. When the unit is turned off but still connected to a power supply, electrolysis can occur in the power cable plug.

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This may result in corrosion of the plug body along with the electrical contacts in the cable and the unit's power socket.

In saltwater environments we recommend you connect the power cable to the auxiliary power switch included in most boat designs. If that results in electrical interference, or if such a switch is not available, we recommend connecting direct to the battery and installing an inline switch. This will let you shut off power to the power cable when the unit is not in use. When you are not using the unit, you should always shut off power to the power cable, especially when the power cable is disconnected from the unit.

If possible, keep the power cable away from other boat wiring, especially the engine's wires. This will provide the best isolation from electrical noise. If the cable is not long enough, splice #18 gauge wire onto it. The power cable has two wires, red and black. Red is the positive lead, black is negative or ground. Make sure to attach the in-line fuse holder to the red lead *as close to the power source as possible.*

For example, if you have to extend the power cable to the battery or power buss, attach one end of the fuse holder directly to the battery or power buss. This will protect both the unit and the power cable in the event of a short. It uses a 3-amp fuse.
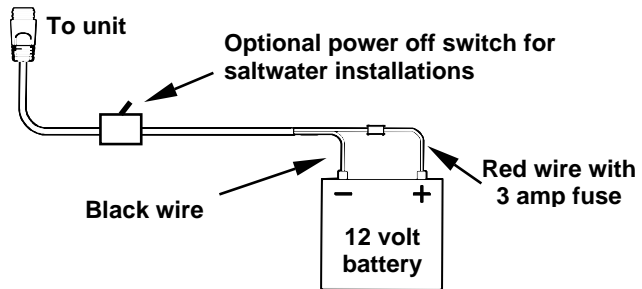
Power connections for the IntelliMap 642c GPS unit.

WARNING:

This product *must* be independently fused with the enclosed 3-amp fuse (or equivalent), even if you connect to a fused accessory or power buss.

If a malfunction happens inside the unit, extensive damage can occur if the enclosed fuse is not used. As with all electrical devices, this unit could be damaged to a point that it is not repairable and could even cause harm to the user when not properly fused.

CAUTION:
   Failure to use the enclosed 3-amp fuse will void your warranty! For a replacement, use a type 3AG 3-amp fuse.

This unit has reverse polarity protection. No damage will occur if the power wires are reversed. However, the unit will not work until the wires are attached correctly.

Cable connections.

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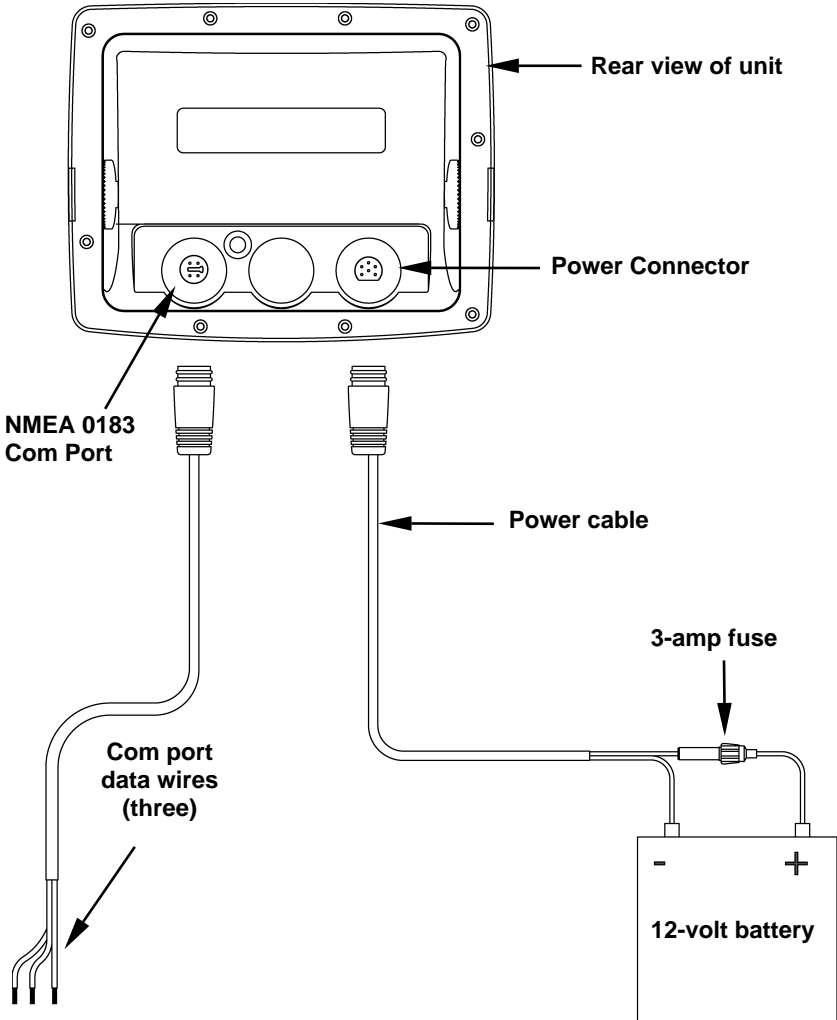
NMEA Cable Connections

NMEA is a standard communications format for marine electronic equipment. For example, an autopilot can connect to the NMEA interface on the IntelliMap 642c and receive positioning information. The IntelliMap 642c can exchange information with any device that transmits or receives NMEA 0183 data, however, a communications cable is not available for the unit at this time. If you need to create a NMEA 0183 connection, consult customer service. Service contact information is located in the back of this manual.

See the diagram on the preceding page for general wiring connections. Read your other product's owner's manual for more wiring information.

NMEA Wiring

To exchange NMEA data, the IntelliMap 642c has one NMEA 0183 version 2.0 communication port. Com port one (Com-1) can be used to receive NMEA format GPS data. The com port can also transmit NMEA format GPS data to another device.

A data cable should contain three wires. Com-1 uses the yellow wire to transmit, the orange wire to receive and the shield wire for signal ground.

Com-1 to IntelliMap — Orange (Receive) — NMEA Transmit — **To Other GPS Receiver** / Shield (Ground) — Ground
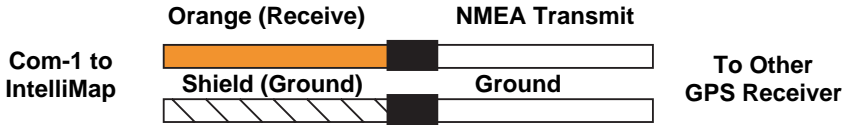
Com-1 wiring to receive NMEA position information from some other GPS receiver.

Com-1 to IntelliMap — Yellow (Transmit) — NMEA Receive — **To Other Device** / Shield (Ground) — Ground
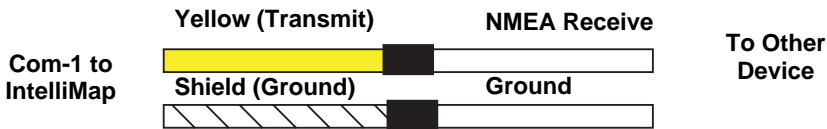
Com-1 wiring to transmit NMEA position information to another NMEA-compatible device.

Mounting the Unit: Bracket or Portable

You can install the IntelliMap 642c on the top of a dash with the supplied gimbal bracket. It can also be mounted on a portable power supply.

If you use the supplied bracket, you may be interested in an optional R-A-M® bracket mounting system. This converts the unit's gimbal bracket to a swivel mount. R-A-M offers permanent mounts and temporary mounts suitable for many vehicle types. See your Eagle dealer or visit the LEI web site (www.lei-extras.com) for the latest options; accessory ordering infor-

mation is on the inside back cover of this manual. For a complete look at the many mounting options, visit the RAM web site at www.ram-mount.com.


Optional R-A-M mounting system.

Bracket Installation

Mount the IntelliMap 642c in any convenient location, provided there is clearance behind the unit when it's tilted for the best viewing angle. ***This must be a location with a clear view of the sky, so the internal GPS antenna can lock-on to the satellite signals.*** You should also make sure there is enough room behind the IntelliMap 642c to attach the power cable. (a drawing on the next page shows the dimensions of a gimbal-mounted IntelliMap 642c.)

Holes in the bracket's base allow wood screw or through-bolt mounting. You may need to place a piece of plywood on the back side of thin fiberglass panels to reinforce the panel and secure the mounting hardware.
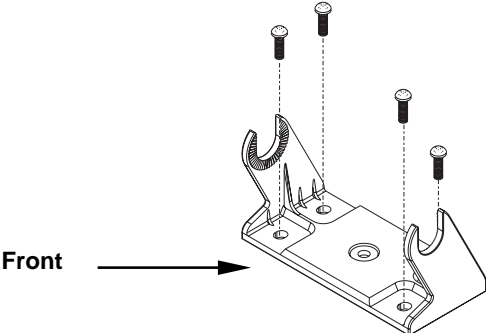
Front

Install the gimbal bracket. Orient the bracket so the arms slope toward the front of your unit.

Drill a 1-inch (25.4 mm) hole in the dash for the power cable. The best location for this hole is immediately under the gimbal bracket location. This way, the bracket can be installed so that it covers the hole, holds the cable in position and results in a neat installation.

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Some customers, however, prefer to mount the bracket to the side of the cable hole — it's a matter of personal preference.

173.9
[6.85]

72.9
[2.87]

23.4
[0.92]

137.9
[5.43]

157.9
[6.22]

Millimeter
[Inch]

56.9
[2.24]
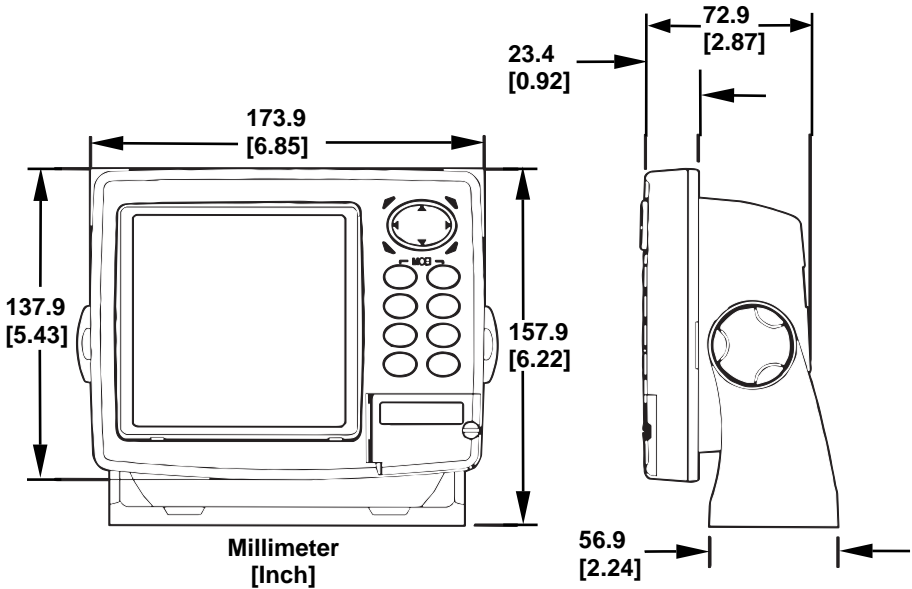
Front view (left) and side view (right) showing dimensions of the IntelliMap 642c when mounted on gimbal bracket.

After drilling the hole, pass the power cable's bare-wire end down though the hole from the top.

If you wish, you can fill in the hole around the cable with a good marine caulking compound. (Some marine dealers stock cable hole covers to conceal the opening.) No matter what type of installation you prefer, be sure to leave enough slack in the cable to allow tilting or swiveling the IntelliMap 642c. If you choose to fill in the hole, be sure to position the cable against the rear edge of the hole as you apply the fill material.

Before positioning the bracket, be sure to hold the cable against the rear edge of the hole. Then, slide the bracket over the hole and butt the rear of the bracket base firmly against the cable, thus pinning it in place against the side of the hole. Finally, fasten the bracket to the dash. Attach the unit to the gimbal bracket using the supplied gimbal knobs and washers.

Portable Installation

Like many Eagle products, the IntelliMap 642c is capable of portable operation by using an optional portable power pack (PPP). The power

pack expands the uses for your GPS unit. The PPP makes it easy to transfer your unit from a boat to a car, recreational vehicle, airplane or other vehicle without drilling and mounting a second bracket. You can use your unit in your own car or boat, then take it along when riding in a friend's vehicle that's not equipped with GPS.

Most LEI portable power packs can be used with eight "D" cell alkaline batteries. Some use an optional sealed, rechargeable battery. For information on the PPP for your unit, see the accessory ordering information inside the back cover of this manual.

"D" cell battery
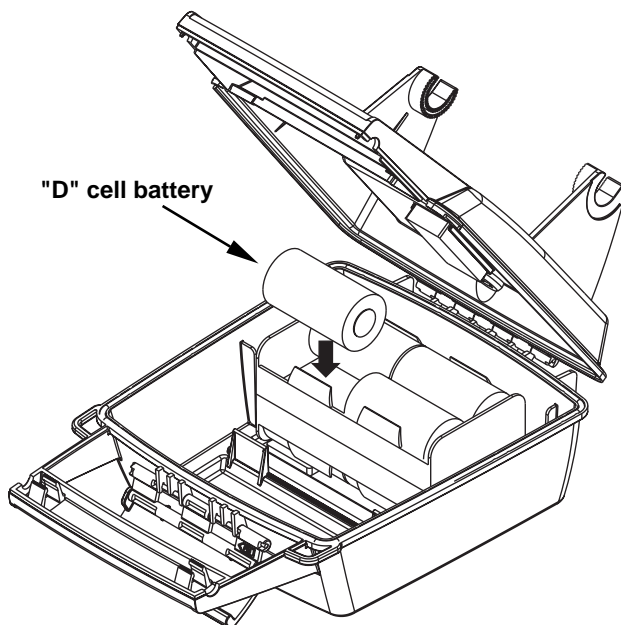
Installing batteries in a typical portal power pack.

MMC or SD Card Memory Card Installation

Your IntelliMap 642c uses a MultiMedia Card to store information, such as custom maps, waypoints, trails and other GPS data. The unit can also use Secure Digital Cards (SD card) to store data.

NOTE:

Throughout this manual, we will use the term MMC, but just remember that your unit can use an MMC *or* SD card to store data.

Both of these solid-state flash memory devices are about the size of a postage stamp. An SD card is slightly thicker than an MMC. As this manual went to press, MMCs and SD cards were available in various storage capacities up to 2 gigabytes.

Additional MMC cards are available from LEI Extras; see ordering information inside the back cover of this manual. MMCs and SD cards are also available at many camera and consumer electronics stores.

The MMC slot is located in a compartment on the front of the case. The compartment door is located at the lower right corner. The following figure shows a close-up with the door opened.

Memory card compartment with a 16 MB MMC card installed.

To remove an MMC

1. Open the card compartment door by unscrewing the thumb screw. The screw should only be finger tight. If it was over-tightened, use a thumbnail, a coin or a screwdriver to open the door.

2. Just press a finger against the label of the MMC and drag it from the slot.

3. Close the compartment door and fasten the thumb screw finger tight.

To add an MMC or SD Card

1. Open the card compartment door.

2. Grasp the bottom of the MMC and push the top of the card into the slot. Once the card is started, use your fingernails to slide it the rest of the way to the left, until it is firmly seated in the slot.

3. Close the compartment door and fasten the thumb screw finger tight.

Other Accessories

Other accessories include MMC cards, MMC card readers and MapCreate™ 6 custom mapping software for your computer. MMC card readers are available in USB and parallel port versions.

If these accessories are not available from your dealer, see the accessory ordering information on the inside back cover of this manual.
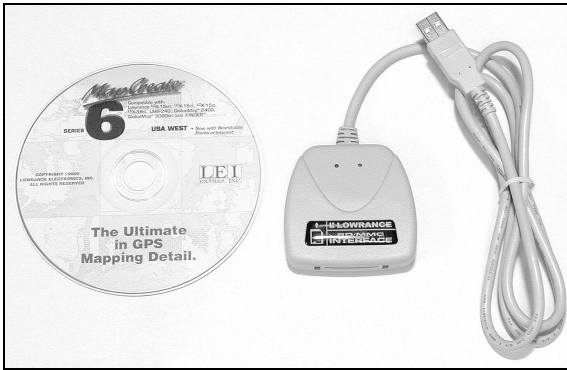
MapCreate™ 6 CD-ROM (left) MMC card reader for USB ports (right).

Now that you have your IntelliMap 642c installed, move on to Section 3, *Basic GPS Operations*. There, we'll present a series of step-by-step tutorials to teach you the basics of GPS navigation.

Notes

Section 3: Basic GPS Operations

This section addresses the unit's *most basic* GPS operations. The tutorials presented in Sec. 3 follow a chronological order. Sec. 4, *Advanced GPS Operations*, will discuss other more advanced functions and utilities. Material in Sec. 4 is arranged in alphabetical order.

Before you turn on the unit and find where you are, it's a good idea to learn about the different keys, the three Page screens and how they all work together. BUT, if you just can't wait to get outside, turn to the one-page *Quick Reference* on page 34.

Keyboard

MMC slot access door
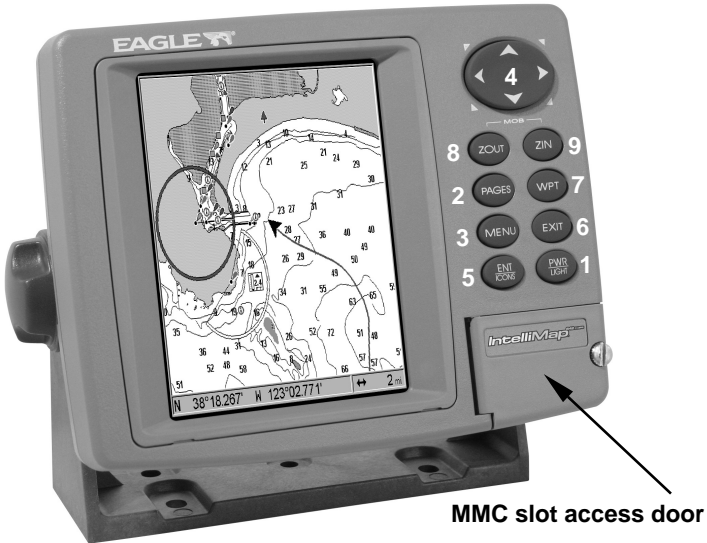
IntelliMap 642c GPS unit view showing the Map Page.

1. **PWR/LIGHT** – The PWR key turns the unit on and off and activates the backlight.

2. **PAGES** – Pressing the Pages key and the ← → arrow keys switches the unit between the four different page screens: Satellite Status Page, Navigation Page and Map Page.

3. **MENU** – Press the Menu key to show menus and submenus. This also accesses search functions for streets, intersections, addresses and highway exits.

4. **ARROW KEYS** – These keys are used to navigate through menus, make menu selections and move around the map.

5. **ENT/ICONS** – The Enter key allows you to save data, accept values and execute menu commands. It is also used to create event marker icons.

6. **EXIT** – The Exit key lets you return to the previous screen, clear data or close a menu.

7. **WPT** – The Waypoint key is used to save and recall waypoints, search for waypoints and access the waypoint list. It also launches Point-of-Interest (POI) search menus and is involved in some navigation functions.

8. **ZOUT** – The Zoom Out key lets you zoom out the screen. On the Map Page, it lets you see a larger geographic area with less detail.

9. **ZIN** – The Zoom In key lets you zoom in the screen. On the Map Page, it lets you see greater detail in a smaller geographic area.

Power/lights on and off

To turn on the unit, press **PWR**. As the unit powers up, the Map Page is displayed first. To switch to another page, press **PAGES|← →** to *Page Name*|**EXIT**.

To turn on the backlight, press **PWR** again. The unit has three backlight levels. Repeatedly pressing **PWR** will cycle through the backlight settings and turn off the backlight.

Turn off the unit by pressing and holding the **PWR** key for 3 seconds.

Main Menu

The unit has a Main Menu, which contains some function commands and some setup option commands. The tutorial lessons in this section will deal only with functions, the basic commands that make the unit do something. The GPS will work fine for these lessons right out of the box with the factory default settings. But, if you want to learn about the various options, see Sec. 5, *System Setup and GPS Setup Options*.

You can access the Main Menu from any of the three Page screens by pressing **MENU|MENU**. To clear the menu screen and return to the page display, press **EXIT**.

```
Screen...
Sounds...
Transparency...
Alarms...
Route Planning...
My Trails...
Cancel Navigation
GPS Setup            ▶
System Setup         ▶
Sun/Moon Calculations...
Trip Calculator...
Timers               ▶
Browse MMC Files...
```

Main Menu.

The Main Menu commands and their functions are:

Screen: changes the contrast or brightness of the display screen.

Sounds: enables or disables the sounds for key strokes and alarms and sets the alarm style.

Transparency: adjusts the level of transparency for menus.

Alarms: turns GPS alarms on or off and changes alarm thresholds.

Route Planning: used to plan, view or navigate a route.

My Trails: shows, creates and deletes plot trails. Also used to navigate or backtrack a trail.

Cancel Navigation: turns off the various navigation commands. Used to stop navigating after you have reached your destination.

GPS Setup: sets various GPS receiver options.

System Setup: sets general configuration options.

Sun/Moon Calculations: finds the rising and setting time of the sun and the moon.

Trip Calculator: shows trip status and statistics.

Timers: controls the up timer, down timer and alarm clock settings.

Browse MMC Files: allows you to view the installed MMC card and the files it contains.

Pages

The unit has three Page displays: Satellite Status Page, Navigation Page and Map Page. They are accessed by pressing the **PAGES** key, then using ← → to select a Page. (Clear the Pages Menu by pressing **EXIT**.)

**Pages Menu showing some Map display options.**

Satellite Status Page

The Satellite Status Page, shown in the following images, provides detailed information on the status of the unit's satellite lock-on and position acquisition. To get to the Satellite Status Page: Press the **PAGES** key, then use ← → to select **STATUS**. (Clear the Pages Menu by pressing **EXIT**.)

No matter what Page you are on, a flashing current position indicator/question mark symbol and flashing GPS data displays indicate that satellite lock has been lost and there is no position confirmed. The Satellite Status Page shows you the quality and accuracy of the current satellite lock-on and position calculation.

WARNING:
   Do not begin navigating with this unit until the numbers have stopped flashing!
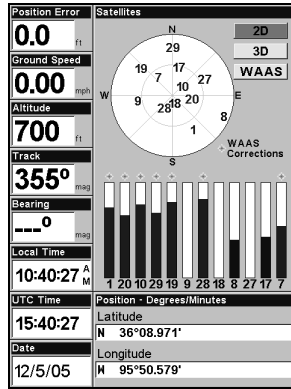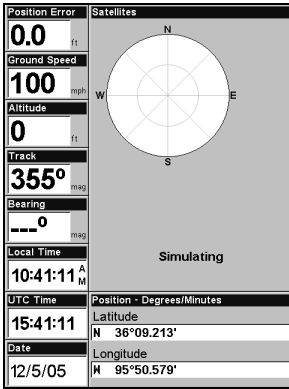
Satellite Status Page. The first figure (left) indicates unit has not locked on to any satellites and does not have a fix on its position. The second figure (right) shows satellite lock-on with a 3D position acquired (latitude, longitude and altitude), and WAAS reception.

This screen shows a graphical view of the satellites that are in view. Each satellite is shown on the circular chart relative to your position. The point in the center of the chart is directly overhead. The small inner ring represents 45° above the horizon and the large ring represents the horizon. North is at the top of the screen. You can use this to see which satellites are obstructed by obstacles in your immediate area if the unit is facing north.

The GPS receiver is tracking satellites that are in bold type. The receiver hasn't locked onto a satellite if the number is grayed out, therefore it isn't being used to solve the position.

Beneath the circular graph are the bar graphs, one for each satellite in view. Since the unit has twelve channels, it can dedicate one channel per visible satellite. The taller the bar on the graph, the better the unit is receiving the signals from the satellite.

NOTE:

One of the data display options for the Satellite Status page is "Position Error" (horizontal position error), which can appear in one of the page's data boxes. Position Error will show you the expected error from a benchmark location. In other words, if the Position Error box shows 50 feet, then the position shown by the unit is estimated to be within 50 feet of the actual location.

This also gives you an indicator of the fix quality the unit currently has. The smaller the position error number, the better (and more accurate) the fix is. If the position error flashes dashes, then the unit hasn't locked onto the satellites, and the number shown isn't valid. (For details, see Customize Page Displays, on page 71.)

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The Satellite Status Page has its own menu, which is used for setting various options. (Options and setup are discussed in Sec. 5). To access the Satellite Status Page Menu, from the Status Page, press **MENU**.

Navigation Page

This screen has a compass rose that not only shows your direction of travel, but also the direction to a recalled waypoint. To get to the Navigation Page, press **PAGES|← →** to **NAVIGATION|EXIT**.

The navigation screen looks like the one below when you're *not* navigating to a waypoint or following a route or trail. Your position is shown by an arrow in the center of the screen. Your trail history, or path you've just taken, is depicted by the line extending from the arrow. The arrow pointing down at the top of the compass rose indicates the current track (direction of travel) you are taking.

Track or compass heading indicator, showing direction of travel
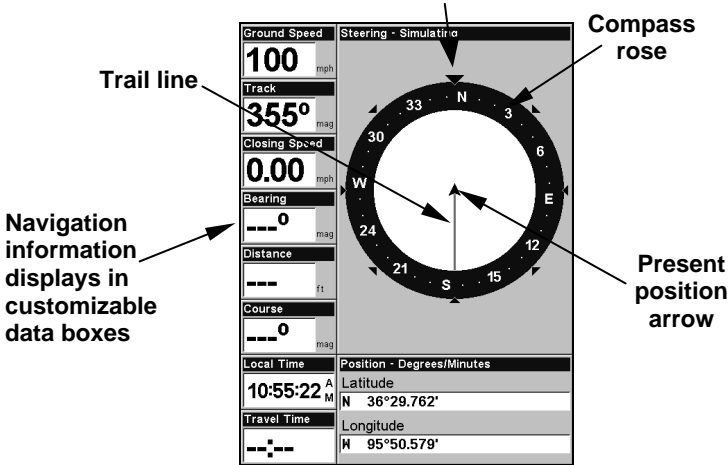
Traveling north and recording a trail on the Navigation page. The page looks like this when the unit is not navigating to a waypoint, following a route or backtracking a trail.

When navigating to a waypoint, the Navigation screen looks like the following figure. Your ground speed, track, distance and bearing to waypoint, and course are all shown digitally on this screen.

NOTE:

Remember, when the Speed, Track and Position information displays are flashing, satellite lock has not been achieved and no position fix has been determined. A question mark will also flash on the present position arrow in the center of the compass rose.

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Speed (ground speed) is the velocity you are making over the ground. (If you wish, you can customize the Speed data box to display Closing Speed instead. Closing Speed is also known as velocity made good. It's the speed that you're making toward the waypoint. For instructions, see the Customize Page Displays entry in Sec. 5.)

Track is the heading, or the current direction you are actually traveling. Bearing is the direction of a line-of-sight from your present position to the destination. No matter what direction you are steering, the Bearing window shows the compass direction straight to the destination from your location at the moment. Distance shows how far it is to the waypoint you're navigating toward.

The Off Course window shows the current cross track error. This shows the distance you are off-course to the side of the desired course line. The course line is an imaginary line drawn from your position when you started navigating to the destination waypoint. The course line is shown on the Navigation Page screen (and the Map Page screen) as a dotted line.
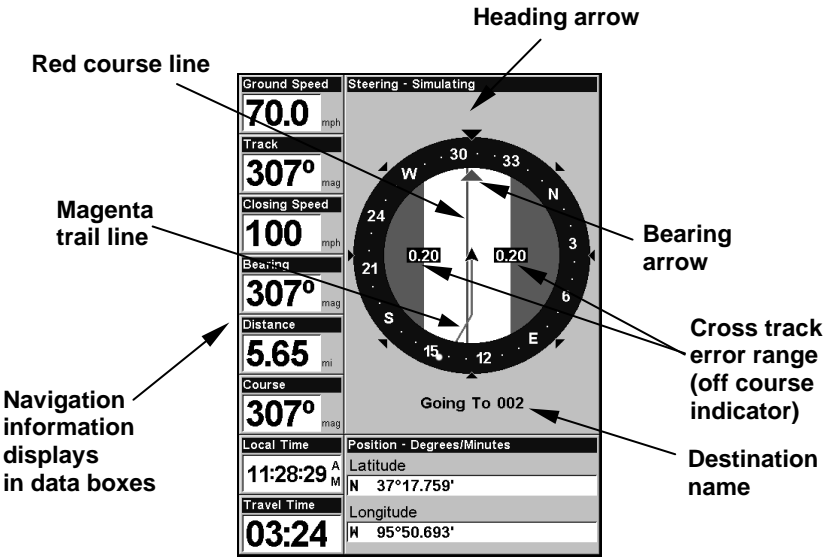
Navigation Page going to a waypoint while creating a new trail.

The cross track error range is shown on the compass rose as a wide, white, corridor enclosing the course line. The outer edges of this white corridor represent lines that show the current cross track error range. The default for the cross track error range is 0.20 miles.

For example, if the present position symbol touches the right cross track error line, then you are 0.20 miles to the right of the desired

course. You need to steer left to return to the desired course. You can use the **ZIN** or **ZOUT** keys to change the cross track error range.

A circular symbol depicting your destination (waypoint) appears on the screen as you approach the waypoint, as shown on the screen in the preceding figure.

Travel Time is the time that it will take to reach your destination at your present closing speed. (You can also customize the time data box to show Arrival Time instead. Arrival Time is the local time it will be when you arrive at the destination, based upon your present closing speed and track.)

In the preceding example figure, the driver is headed northwest (a 345º track) toward a waypoint 346º (bearing) away. The cross track error range (white corridor) is 0.15 miles either side of the course. The driver is headed toward trail waypoint 1, which is 0.3 miles away. The vehicle is 234 feet right of the original course. Traveling at a speed of 17 mph, the driver will arrive at the waypoint in 1 minute, 3 seconds.

The Navigation Page has its own menu, which is used for some advanced functions and for setting various options. (Options and setup are discussed in Sec. 5). To access the Navigation Page Menu, from the Navigation Page, press **MENU**.
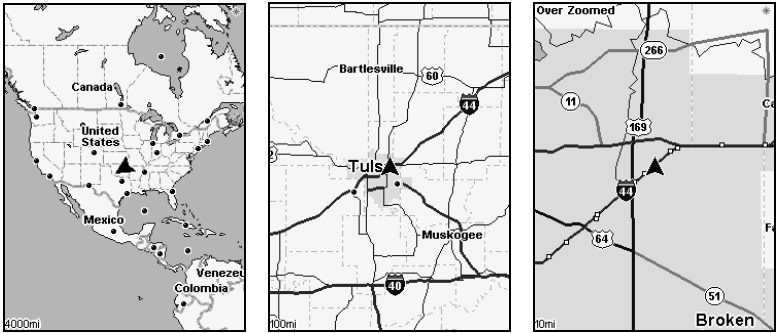
Map Page

The Map Page screens show your course and track from a "bird's-eye" view. By default, this unit shows the map with north always at the top of the screen. (This can be changed. See the topic *Map Orientation*, in Sec. 5.) If you're navigating to a waypoint, the map also shows your starting location, present position, course line and destination. You don't have to navigate to a waypoint, however, to use the map.

Map Page is the default screen that appears when you turn on the unit. To get to the Map Page from another page: Press **PAGES**|← → to **MAP**|**EXIT**. When the Map Page is displayed, a screen similar to the following figures appears.

The arrow in the center of the screen is your present position. It points in the direction you're traveling. The solid line extending from the back of the arrow is your plot trail, or path you've taken.

The map zoom range is the distance across the screen. This number shows in the lower left corner of the screen. In the first of the following example figures, the range is 4,000 miles from the left edge of the map to the right edge of the map.

The Zoom In and Zoom Out keys zoom the map to enlarge or reduce its coverage area and the amount of mapping detail shown. There are 40 available map zoom ranges, from 0.02 miles to 4,000 miles.

Map Page opening screen (left). Map page zoomed to 100 miles (center). Map zoomed to 10 miles (right). Over Zoomed means you have reached the detail limits in an area covered only by the basic background map. Zooming in any closer will reveal no more map detail.

If you're using only the factory-loaded background map, the maximum zoom range for showing *additional* map detail is 15 miles. You can continue to zoom in closer, but the map will simply be enlarged without revealing more map content (except for a few major city streets.) Load your own high-detail custom map made with MapCreate (or a pre-made FreedomMap from LEI), and you can zoom in to 0.02 miles with massive amounts of accurate map detail.
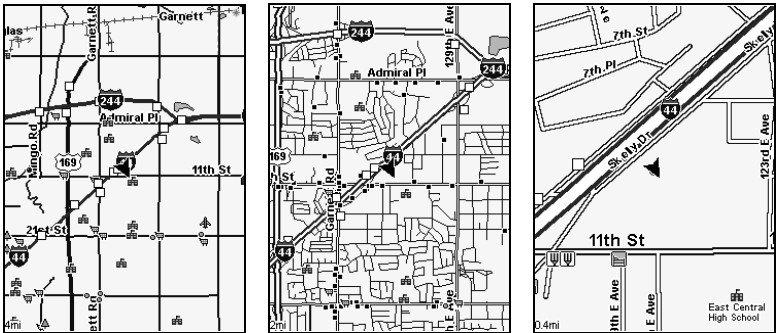
Map Pages with high-detail MapCreate map of urban area loaded on the MMC. Arterial streets are visible at the 4-mile zoom range (left). Numerous dots representing Points of Interest are visible at the 2-mile range (center), along with minor streets. At the 0.4-mile zoom (right), you can see an interstate highway with an exit, major and minor streets as well as Point of Interest icons.

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Background map vs. MapCreate map content

The background map includes: low-detail maps of the whole world (containing cities, major lakes, major rivers, political boundaries); and medium-detail maps of the United States.
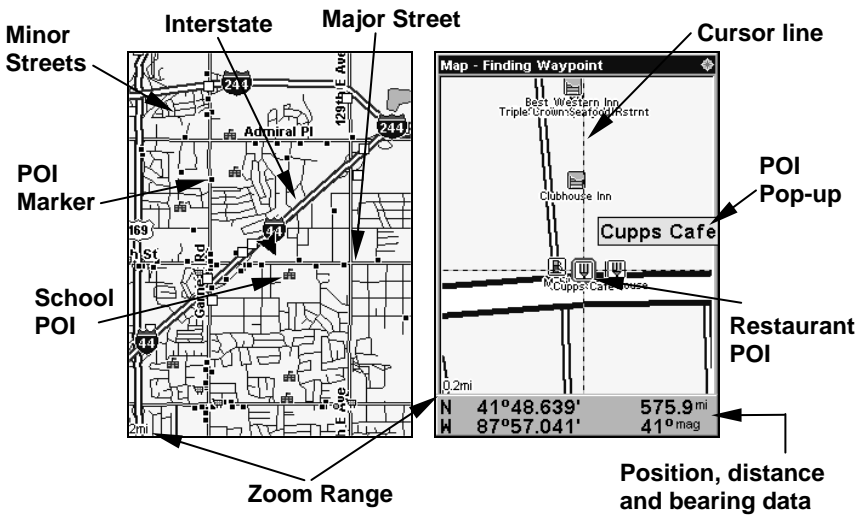
The medium-detail U.S. maps contain: all incorporated cities; shaded metropolitan areas; county boundaries; shaded public lands (such as national forests and parks); some major city streets; Interstate, U.S. and state highways; Interstate highway exits and exit services information; large- and medium-sized lakes and streams; and more than 60,000 navigation aids and 10,000 wrecks and obstructions in U.S. coastal and Great Lakes waters

MapCreate custom maps include massive amounts of information not found in the background map. MapCreate maps contain the searchable Points of Interest database, all the minor roads and streets, all the landmark features (such as summits, schools, radio towers, etc.); more rivers, streams, smaller lakes and ponds and their names.

What's more important is the large scale map detail that allows your GPS unit to show a higher level of position accuracy. For example, the background map would show you the general outline and approximate shape of a coastline or water body, but the higher detail in MapCreate shows the shoreline completely and accurately (finer detail). Many smaller islands would not be included in the background map, but are, of course, in MapCreate.

NOTE:

Available through LEI Extras (look inside back cover for accessory ordering information), FreedomMaps are pre-made maps that contain all of the same information available in a custom MapCreate map, without any of the work of preparation.

Labels on the figure: Minor Streets, Interstate, Major Street, Cursor line, POI Marker, POI Pop-up, School POI, Restaurant POI, Zoom Range, Position, distance and bearing data

Map - Finding Waypoint
Best Western Inn
Triple Crown Seafood Rstrnt
Clubhouse Inn
Cupps Cafe
Cupps Cafe House
0.2mi
N 41º48.639'   575.9 mi
W 87º57.041'   41º mag

When the map is zoomed out far enough, most POIs appear as square dots (left). As you zoom in closer, the symbols become readable icons. In the 0.2-mile zoom example (right), the cursor has selected the Cupps Café POI, which triggers a pop-up box with the POI name. This pop-up box works on POIs at any zoom range.

Tip:

In some urban areas, businesses are so close to one another that their POI icons crowd each other on the screen. You can reduce screen clutter and make streets and other map features easier to see by simply turning off the *display* of POIs you're not watching for. (To see how, check the text on Map Detail Category Selection, page 77. It shows how to use the Map Categories Drawn menu to turn individual POI displays off and on.) Even though their display is turned off, you can still search for POIs and their icons will pop-up when your unit finds them for you.

The Map Page has its own menu, which is used for several functions and for setting various options. To access the Map Page Menu, from the Map Page, press **MENU**.

The Pages Menu also offers several map display options under the Map Page category. To access them, press **PAGES**|← → to **MAP**|↓ to *Option*|**EXIT**.
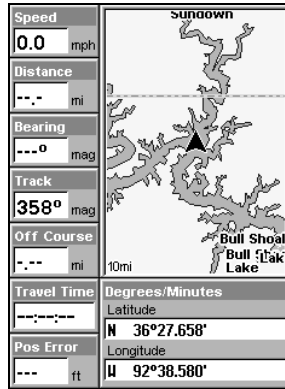
Two Position Formats map page option.

In pages that have two major windows (such as two maps) you can toggle back and forth between the two windows by pressing **PAGES|PAGES**. Each time you switch between the windows, Active Map will be displayed at the top of the active window.
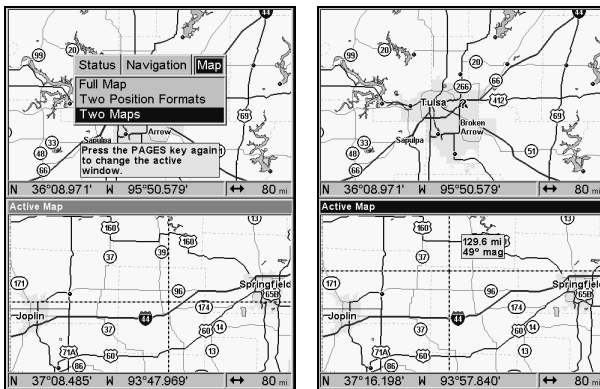
Pages Menu with Two Map option selected (left).
Map Page with two map windows (right).

Resize Window command

Resize Window is another extremely handy feature for pages that have two major windows. You can change the relative size of the windows, as well as horizontal or vertical layout, to suit your viewing preference. Here's how:

1. From any two-window display, press **MENU|↓** to **RESIZE WINDOW|ENT**.

2. Four flashing arrows appear along the centerline dividing the two windows. Press an arrow key perpendicular to the centerline to adjust the window widths.

Press an arrow key parallel to the centerline to switch between horizontal and vertical layout. Press **EXIT** to clear the four flashing arrows.
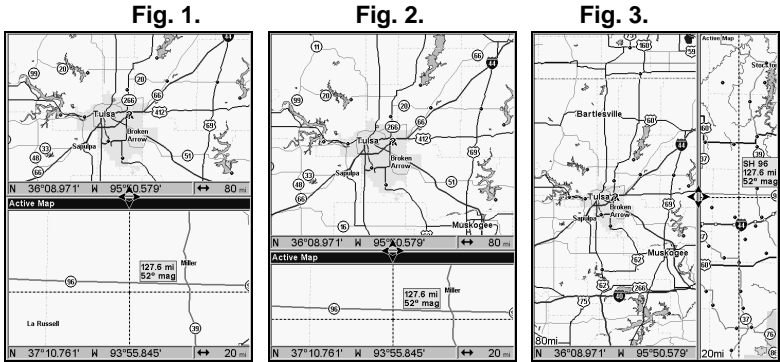
Fig. 1.   **Fig. 2.**   **Fig. 3.**

Fig. 1. Two Maps page display with four flashing arrows on the dividing centerline. Fig. 2. The centerline has been moved down to enlarge the top map, which is now zoomed in to 40 miles. Fig. 3. Pressing → has switched the page layout from horizontal to vertical.

3. To change the window size again or revert back to the original display, just follow the steps above. (Most dual-window displays use half the screen for each window by default.) You can also use the Reset Options command to revert to the factory default.

NOTE:

> The units described by this manual are all capable of using this command. If your unit does not have a Resize Window command on the Map Page menu, you can update your software by visiting our web site **www.eaglegps.com** or by contacting customer service.

The following page contains a 12-step quick reference for the most basic GPS operations. If you don't want to carry the manual with you as you practice with the unit, you might consider photocopying this quick reference page and tucking it into your pocket.

Basic GPS Quick Reference

Start outdoors, with a clear view of the open sky. As you practice, try navigating to a location at least a few blocks away. While you're learning, navigation in too small an area will constantly trigger arrival alarms.

1. Connect the unit to electric power and the antenna module. Make sure the MMC is in. (See complete installation details beginning on page 11.)

2. To turn on the unit, press and release **PWR** key.

3. Opening screen displays map of North America at 4,000 mile zoom range. Rotate through the three main Page screens (Map Page, Satellite Status Page and Navigation Page) by pressing **PAGES**|← → to select *Page Name*|**EXIT**. Switch Pages to display Satellite Status Page.

4. Wait while unit locates satellites and calculates current position. Process is visible on Satellite Page. This takes about a minutes or less under clear sky conditions (unobstructed by terrain or structures.) When position is acquired, unit sounds a tone and displays a "position acquired" message. The present position arrow and information shown in data boxes or as overlay data will stop flashing.

5. With position acquired, press **PAGES** key to display Map Page, which shows a bird's eye view of the earth. You can move around the map by:

    Zoom in closer to see greater detail: press **ZIN** (zoom in key.)
    Zoom out to see more area, less detail: press **ZOUT** (zoom out key.)
    Scroll map north, south, east or west using arrow keys ↑↓, ← →.

To stop scrolling and return to current position on map, press **EXIT** key.

6. Set a waypoint (*Wpt 001*) at your current position so you can navigate back here: press **WPT**|**WPT**. Waypoint symbol and "001" appears.

7. Zoom/scroll map to find a nearby object or location to go to. Use arrow keys to center cursor cross-hair over the map object or location.

8. Navigate to the selected destination: press **MENU**|**ENT**|**EXIT**. Follow red course line on Map Page or compass bearing arrow on Navigation Page.

9. At destination, Arrival Alarm goes off; to clear it, press **EXIT**. Cancel navigation: press **MENU**|**MENU**|↓ to C**ANCEL** N**AVIGATION**|**ENT**|← to Y**ES**|**ENT**.

10. Return to Wpt 1 by Navigate To Waypoint or Backtrack Trail. ***To Waypoint***: press **WPT**|**ENT**|↓|**ENT**. Use ↑ or ↓ to select *Wpt 001*, press **ENT**|**ENT**; follow navigation displays. ***Trail:*** press **MENU**|**MENU**|↓ to M**Y** T**RAILS**|**ENT**. Press ↓ to *Trail 1*|**ENT**|↓ → to N**AVIGATE**|**ENT**. Press ↓ → to R**EVERSE** |**ENT**|← to N**AVIGATE** |**ENT**. (If arrival alarm sounds, press **EXIT**.) Follow navigation displays.

11. Back home, Arrival Alarm goes off; press **EXIT**. Cancel navigation: press **MENU**|**MENU**|↓ to C**ANCEL** N**AVIGATION**|**ENT**|← to Y**ES**|**ENT**.

12. To turn off the unit, press and hold **PWR** key for three seconds.

Find Your Current Position

Finding your current position is as simple as turning on the unit. Under clear sky conditions, the unit automatically searches for satellites and calculates its position in approximately one minute or less.

NOTE:

> Clear sky conditions means open sky, unobstructed by terrain, dense foliage or structures. Clouds do not restrict GPS reception.

If for some reason satellite acquisition takes longer, you may be inside a structure or vehicle or in terrain that is blocking signal reception. To correct this, be sure you are positioned so that the unit has as clear a view of the sky as possible, then turn the unit off and back on again.

Moving Around the Map: Zoom & Cursor Arrow Keys

The map is presented from a bird's eye view perspective. The current zoom range shows in the lower left corner of the screen.

1. Press the **ZIN** key (zoom in) to move in closer and see greater detail in a smaller geographic area.

2. Press the **ZOUT** key (zoom out) to move farther away and see less map detail, but a larger geographic area.

When you are traveling, the map will automatically move as you move. This keeps your current location roughly centered on the screen.

You can manually pan or scroll the map northward, southward, eastward or westward by using the arrow keys, which launch the cross-hair map cursor. This allows you to look at map places other than your current position. To clear the cursor, press **EXIT**, which jumps the map back to the current position or the last known position.

Tip:

> Use the cursor to determine the distance from your current position (or last known position, when working indoors) to any map object or location. Use the arrow keys to position the cursor over the object or place. The distance, measured in a straight line, appears in the popup data box. Press **EXIT** to clear the cursor.
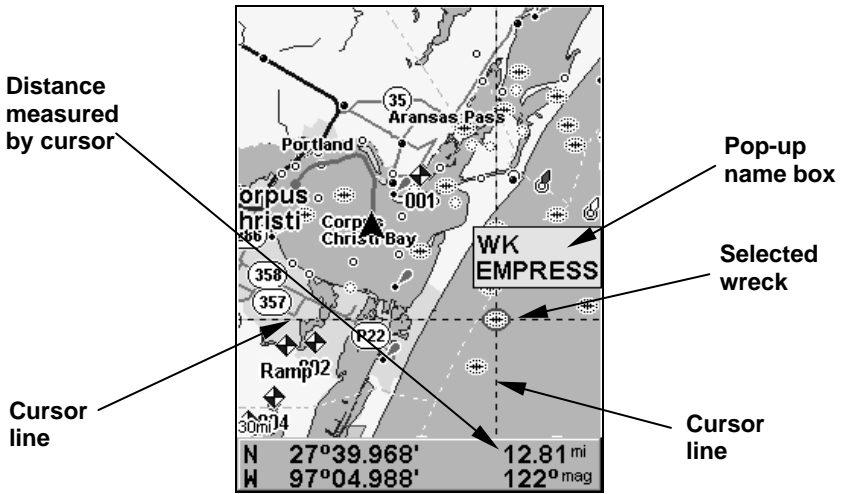
The selected wreck (the Empress) to the southeast is 12.81 miles away.

Selecting Any Map Item With the Cursor

1. Use the zoom keys and the arrow keys to move around the map and find the item you wish to select.

2. Use the arrow keys and center the cursor cross-hair on the desired object. On most items, a pop-up box will give the name of the selected item.

Tip:

This unit has a Cursor Undo feature that lets you instantly return to the previous location without scrolling. Use the cursor to scroll across the map to some far away location or waypoint. Press **EXIT** to clear the cursor and jump back to your current position on the map. When you want to take another peek at that distant place, just press **EXIT** again. You can use this trick to toggle between your current position and your destination.

Searching

Now that you have seen how the unit can find your current location, let's search for something else. Searching is one of the most powerful features in the Eagle GPS product line.

In this example, we will look for the *nearest* fast-food restaurant. For information on different types of searches, refer to *Sec. 9, Searching.*

NOTE:

This example requires the Point of Interest (POI) database included with a high-detail MapCreate 6 custom map.

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1. After the unit has acquired a position, press **WPT|↓** to **POI-RESTAURANTS**.

2. You could search the entire restaurant category, but in this example we will narrow our search. Press → ↓ to **FAST FOOD CHAINS|ENT|↓** to **NEAREST|ENT**.

3. A list of restaurants will appear with the closest at the top of the list, and the one furthest from you at the bottom of the list. The nearest is highlighted.
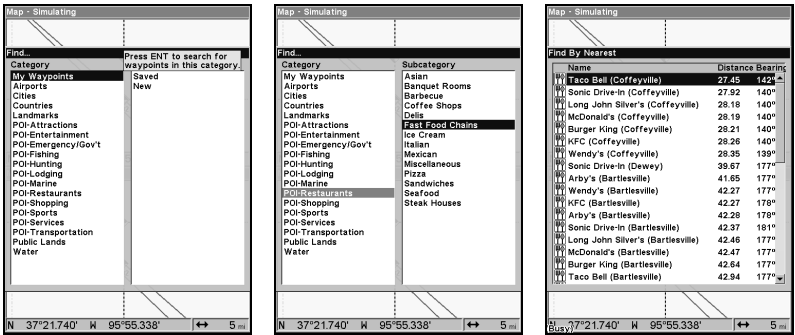
Find Waypoint Menu (left). Category Selection menu (center). List of the nearest restaurants (right).

4. If you wish, you could scroll ↑ ↓ here to select another restaurant, but for now we will just accept the nearest one. Press **ENT**.

5. The POI information screen appears. If you wanted to navigate there, you could press Enter, since the Go To Waypoint command is highlighted. We only want to see it on the map, so press ↓ to **FIND ON MAP|ENT**.
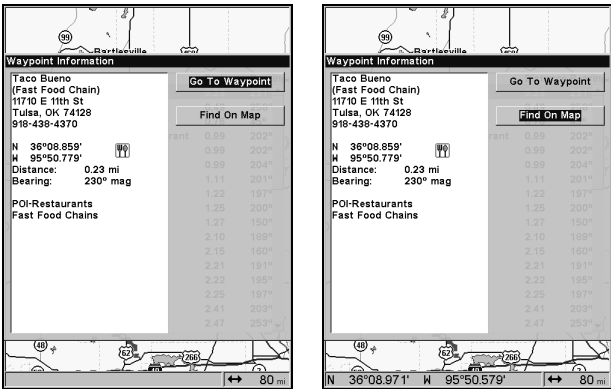
POI information screen on fast food restaurant nearest this position. Go To command highlighted (left). Find On Map highlighted (right).

5. The POI information screen appears. (This is how you can use this unit as a business phone directory!) If you wanted to navigate there, you could by pressing Enter. The Go To waypoint command is already highlighted. But we just want to see it on the map, so press ↓ to **FIND ON MAP** | **ENT**.

6. The unit's map appears, with the cursor crosshairs highlighting the restaurant' s POI symbol. A pop-up data box shows the POI's name. A data box at the bottom of the screen displays the location's latitude, longitude, distance and bearing.

**Finding Waypoint screen showing
the result of a restaurant search.**

7. To clear the search and return to the last page displayed, press **EXIT** repeatedly. Before you exited out of the Search menus, you could have gone looking for another place.

NOTE:

Search works from mapping and POI data loaded in the unit. If you do not have a high-detailed custom map for the area you are searching, you may not find anything.

Set a Waypoint

A waypoint is an electronic address based on the latitude and longitude of a position on the earth. It represents a location, spot or destination that can be stored in memory, then recalled and used later on for navigation purposes.

You can create a waypoint at the cursor position on the map or at your current position while navigating. You can create a waypoint at any location by manually entering the position's latitude and longitude. You can copy waypoints from your unit to your personal computer with

MapCreate software. When you want to repeat a trip, these archived waypoints can be reloaded into your GPS unit.

To create and save a Waypoint:

These first two techniques use the Quick Save method, the fastest and easiest way to create a waypoint.
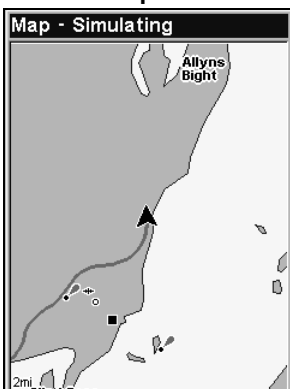
Create Waypoint at Current Position

While you are traveling, press **WPT|WPT**. The waypoint is saved and automatically given a name with a sequential number, such as way-point 003. The waypoint symbol and number appear on the map.

NOTE:

The Quick Save method uses the default waypoint symbol until you edit an existing waypoint and change its symbol. (Edit Waypoint Symbol is described in Sec. 7.) After you have changed a waypoint symbol, the unit will remember the one you chose and use it the *next* time you quick save a waypoint. To revert back to the *default* symbol, edit a waypoint and choose the original symbol, or use the Reset Options command (described in Sec. 8).
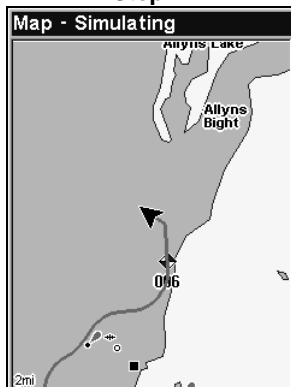
Step 1.	Step 2.
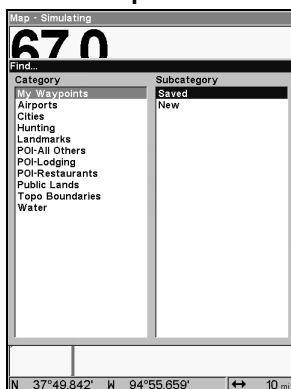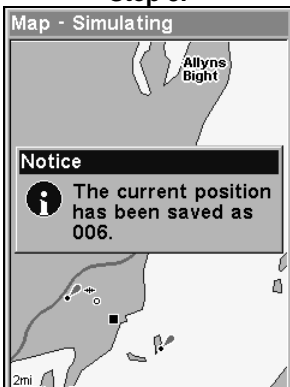
Step 3.	Step 4.

Sequence for setting a waypoint. Step 1: while traveling, press WPT to call up Find Waypoint screen (seen in Step 2) and set a point. Step 3: a message says the waypoint has been saved. Step 4: vehicle continues on its way; number waypoint symbol is visible on map.

Create Waypoint on Map

1. Use the arrow keys to move the cursor to the place where you want to make a waypoint.

2. Press **WPT|WPT**. The waypoint is saved and automatically given a name with a sequential number, such as waypoint 001. The waypoint symbol and number appear on the map.

Create Waypoint by Entering a Position

1. Press **WPT|↑** to **MY WAYPOINTS|→** to **NEW|ENT**.

2. Press **↓** to **ENTERED POSITION|ENT|→** to **CREATE|ENT**.

3. Press **→** to **LATITUDE|ENT**. Enter the latitude by pressing **↑ ↓** to change the first character, then press **→** to the next character and re-peat until the latitude is correct. Press **ENT**.

4. Press ↓ to **LONGITUDE**|**ENT**. Enter the longitude by pressing ↑ ↓ to change the first character, then press → to the next character and repeat until the longitude is correct. Press **ENT**, then **EXIT**|**EXIT** to return to the previous page display. The waypoint is saved and automatically given a name with a sequential number, such as waypoint 001. The waypoint symbol and number appear on the map and in the waypoint list.

Navigate To a Waypoint

You can select any waypoint on the Map Page with the cursor, then use the Navigate to Cursor command (we will describe how later in this section.) You, however, can avoid scrolling the map to pick your waypoint if you use the Find Waypoint commands.

1. Press **WPT**|↑ to **MY WAYPOINTS**|**ENT**. To look up the nearest waypoint, press ↓ to **NEAREST**|**ENT**. To look by name — and scroll through the entire waypoint list — press ↓|**ENT**. For this example, let's look by name.

2. If your waypoint list is a long one, you can spell out the waypoint name in the **FIND BY NAME** box. Press ↑ ↓ to change the first character, then press → to move the cursor to the next character and repeat until the name is correct, then press **ENT** to jump to the list below.

3. If the list is short, you can jump directly to the **FIND IN LIST** box by pressing **ENT**. Use ↑ ↓ to select the waypoint name, press **ENT** and the waypoint information screen appears with the **GO TO** command selected.

4. To begin navigating to the waypoint, press **ENT**.

Navigating to waypoint 002 and leaving a trail.
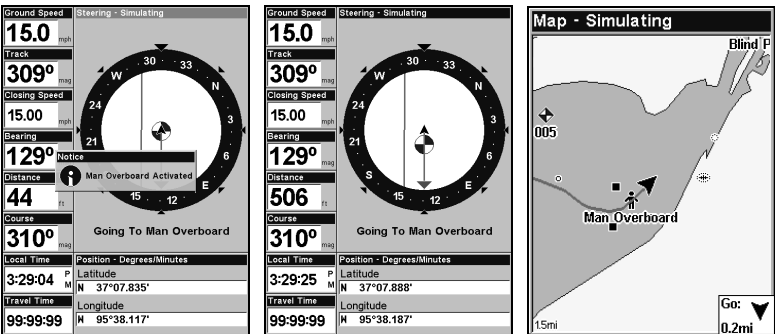
Set Man Overboard (MOB) Waypoint

One of boating's most terrifying events is having a friend or family member fall overboard. This unit has a man overboard feature that shows navigation data to the location where the feature was activated. To activate it, press the **ZOUT** and **ZIN** keys at the same time. Your position at the time these keys are pressed is used as the man overboard position.

Caution:

> *Saving a new Man Overboard waypoint will overwrite and erase the previous Man Overboard waypoint.*

Navigate Back to MOB Waypoint

Find your way back to the accident position with the Navigation Page or Map Page. When MOB is activated, the Navigation Page automatically shows the compass rose with its bearing arrow pointing toward the man overboard position, and the destination name says Going To Man Overboard. The Map Page displays a Man Overboard waypoint, represented by a human figure, and the steering arrow points where to steer to reach that position.

Navigating to Man Overboard: Man Overboard activated message (left). The Navigation Page is shown (center). Going to Man Overboard position on Map Page (right).

The man overboard position is also stored in the waypoint list for future reference. It can be edited the same as any other waypoint. This prevents the inadvertent loss of the current Man Overboard position.

To cancel navigation to MOB, press **MENU|MENU|↓** to **CANCEL NAVIGATION|ENT|←** to **YES|ENT**. The unit stops showing navigation information.

Navigate to Cursor Position on Map

The **GO TO CURSOR** command navigates to the current cursor position on the map. It is a quick way to navigate to anything you can see on the map display.

1. Use the cursor with the zoom in and zoom out keys to move around the map until you find a location you want to go to.

2. Center the cursor over the location to select it. See the example in the following figure. Map items like waypoints, Points of Interest and towns among others, can be selected and appear highlighted with a pop-up box. Other features, such as a river or a street intersection will not appear highlighted, but the cursor will take you to those locations just the same.
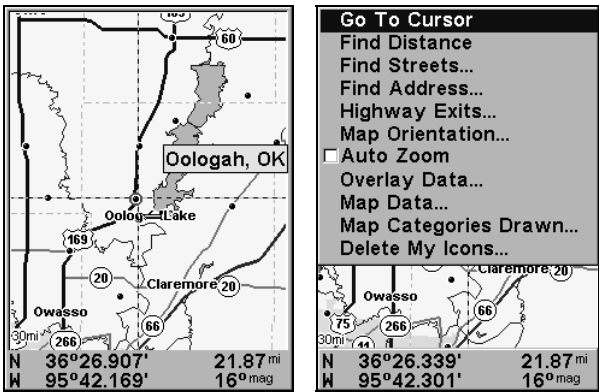
The cursor crosshairs are centered on Oologah, Oklahoma.

3. Press **MENU|ENT** and the unit will begin navigating to the cursor location.

The Map Page will display a red line from your current position to the cursor position. The Navigation Page displays a compass rose showing navigation information to your destination. See the following examples.
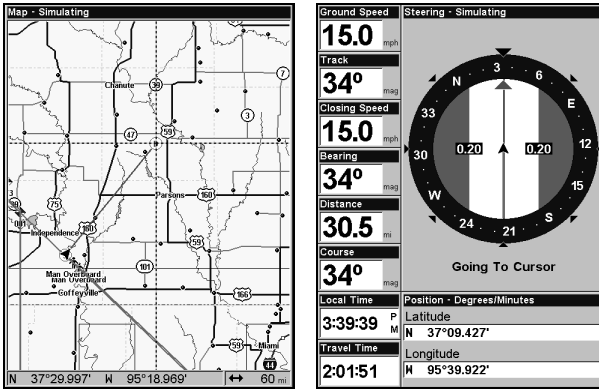
The 60-mile zoom figure (left) shows the red course line connecting the current position to the destination. The Navigation Page (right) will also show navigation information.

To stop navigating to the cursor, use the Cancel Navigation command. Press **MENU|MENU|↓** to **CANCEL NAVIGATION|ENT|←** to **YES|ENT**. The unit stops showing navigation information.

Navigate to a Point of Interest

You can use the Navigate to Cursor command for POIs in view on the map, just use the cursor to select the POI.

The other method involves searching for POIs with the Find Waypoint command, launched with the **WPT** key. (See the searching example earlier in this section or turn to Sec. 9, *Searching*, for more instructions.)

After you have looked up an item with the Find Waypoint command, use ← → to make sure the **GO TO** command is highlighted at the bottom of the screen, then press **ENT**. The unit begins showing navigation information to the item.

To cancel navigation, press **MENU|MENU|↓** to **CANCEL NAVIGATION|ENT|←** to **YES|ENT**. The unit stops showing navigation information.

Creating and Saving a Trail

A trail or plot trail, is a string of position points plotted by the unit as you travel. It is a travel history, a record of the path you have taken. Trails are useful for repeating a journey along the same track. They are particularly handy when you are trying to retrace your trip and go back the way you came. On the screen, trails are represented by a solid line extending from the back of the current position arrow. The default color is light magenta.

The unit is set to automatically create and record a trail when it is turned on. The unit will continue recording the trail until the length reaches the maximum trail point setting. The default is 2,000 points, but the unit can record trails 9,999 points long. When the point limit is reached, the unit begins recording the trail over itself.

With the default auto setting, this unit creates a trail by placing a dot on the screen every time you change directions. The methods used for creating a trail and the trail update rate can be adjusted or even turned off. See Sec. 8 for *Trail Options*.

To preserve a trail from point A to point B, you must turn off the trail by making it *inactive* before heading to point C or even back to point A. When the current trail is set inactive, the unit *automatically* begins recording a new trail.

To Save a Trail
1. Press **MENU|MENU|↓** to **MY TRAILS|ENT**.
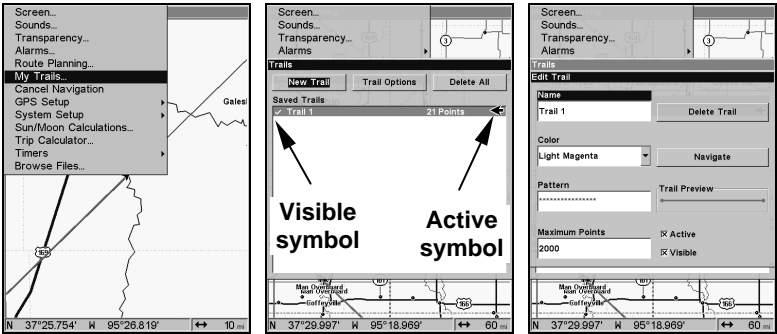
Sequence for saving a trail and beginning a new one. My Trails command (left). The Trails Menu (center). The arrow to the right of Trail 3 indicates the trail is active and the check to the left indicates the trail is visible on the map display. The third figure (right) shows the Edit Trail menu, with the Name command selected.

2. Press ↓ to the *Active Trail Name*|**ENT**.

3. Press ↓ → to **ACTIVE|ENT**. This unchecks the Active option.

4. To return to the previous page, press **EXIT** repeatedly. As you leave the Edit Trail menu, a new trail starts with a new sequential number.

You can save and recall up to 10 different plot trails, which can be copied to your MMC for archiving or for transfer to your MapCreate software.

Tip:

> Another quick way to stop recording one trail and begin a new one is to use the New Trail command. Press **MENU|MENU|↓** to **My Trails|ENT|ENT**.

Caution:

> *You also have the option of completely turning off trail recording, under the trail Options command. If, however, the Update Active Trail option is left turned off, it will cancel the automatic trail creation feature.*

Displaying a Saved Trail

The active trail is automatically displayed on the with the default settings. You can selectively turn trail display off and on for any saved or active trail. In the Saved Trails List, visible trails have a check mark in front of the trail name.

To turn off trail display:

1. Press **MENU|MENU|↓** to **My Trails|ENT**.

2. Press **↓** to enter the Saved Trail list, then use **↑ ↓** to select the desired *Trail Name|* **ENT**.

3. Press **↓ →** to **Visible|ENT**. To return to the previous page, press **EXIT** repeatedly. Repeat the steps above to the turn on the trail display.

Navigating Trails

There are three methods for following a trail: visual trailing, navigating a trail and backtracking a trail. Try each method to see which you prefer.

Visual trailing is the simplest method. It uses only the Map Page and requires no menu commands at all. The technique works the same if you are running a trail forward (from start to end) or backward (from end to start.) Visual trailing, however, provides no navigation information during the trip, like time to your destination.

The other two methods provide a full range of navigation data and work with both the Map Page and Navigation Page. The only difference between them is navigating a trail follows a trail forward while backtracking follows a trail in reverse.

When hiking at walking speed with a hand-held GPS, we often just use visual back trailing because it is a bit better at following each turn on a foot path. At faster speeds, like on the highway or on the water, the Navigate Trail and Backtrack Trail commands are handy.

Visual Trailing

1. On the Map Page, zoom (**ZIN** or **ZOUT**) so your trail is visible.

2. Begin moving and watch the Map Page. Walk or steer so your current position arrow traces along the trail you have just made.

Tip:

Generally, when using this method, the smaller the zoom range, the more accurately you will be able to steer along the trail.

Navigate a Trail

The following figures illustrate the menu sequence for navigating a trail.

1. Press **MENU|MENU|↓** to **MY TRAILS|ENT**.

2. Press ↓ to enter the Saved Trail list, then use ↑ ↓ to select the desired *Trail Name*|**ENT**.

3. Press ↓ → to **NAVIGATE|ENT**. Press ↓|**NAVIGATE**| **ENT**.

The unit begins showing navigation information along the trail.

NOTE:

If you are already located at or near the beginning of your trail, the arrival alarm will go off as soon as you hit Enter. Just press **EXIT** to clear the alarm and proceed.

5. Now, begin moving and let your unit guide you.

6. When you reach your destination, be sure to cancel your navigation. Press **MENU|MENU|↓** to **CANCEL NAVIGATION|ENT**. A confirmation message will appear. Press ←|**ENT**.
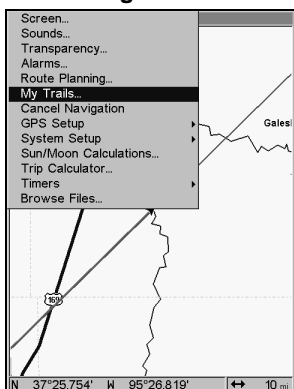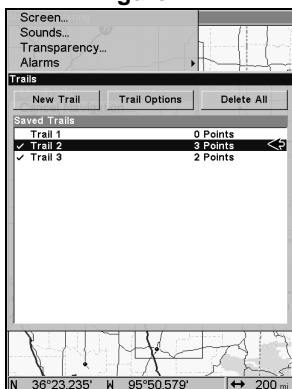
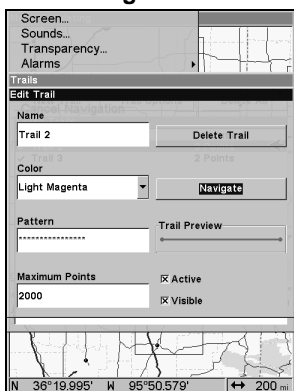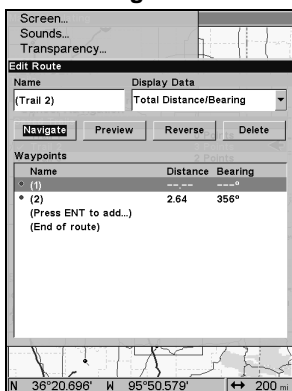**Figure 1.**   **Figure 2.**

Figure 3.   **Figure 4.**

Navigate a trail menu sequence: Fig. 1, My Trails command. Fig. 2, Trails Menu. Fig. 3, Edit Trail Menu. Fig. 4, Edit Route Menu with Navigate Route command highlighted for Trail 2. A trail is always converted to a route when you navigate the trail.

On the Map Page, the trail you are navigating is represented by a magenta line when the visible trail option is on. The course you are following is represented by a red line. The magenta trail line overlays the red course line. To see the red course line, you must turn off the visible trail option. The Navigation Page will show only the red course line, unless you are recording a new trail. The bearing arrow on the compass rose points to the next waypoint on the trail.

As you travel, the arrival alarm will go off when you near a trail waypoint and the bearing arrow on the compass rose will swing around toward the next trail waypoint. Press **EXIT** to clear the alarm.
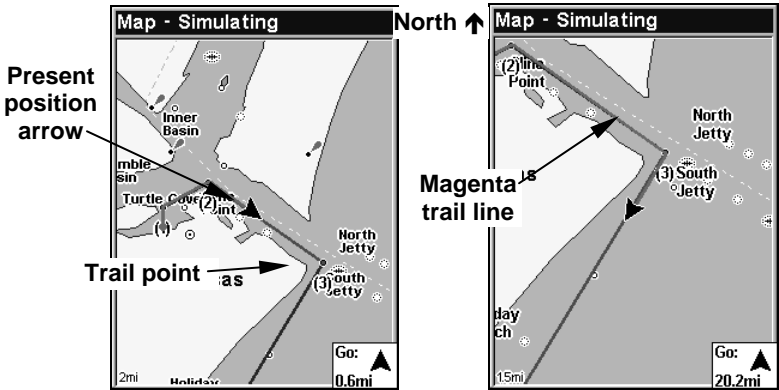
Navigate trail: Driver is heading southeast straight toward trail point 3 (left). Driver has reached point 3 and has turned southwest to follow the trail (right).

Navigate trail, navigation page (compass rose) views: Driver is heading north straight toward trail point 3 (left). Bearing arrow shows the bearing to the trail point is 355 degrees. Driver has reached trail point 3 (right), causing the Arrival alarm to go off. The unit now shows navigation information to point 4, which is 1.42 miles away.

Navigate a Back Trail

1. Press **MENU|MENU|↓** to **MY TRAILS|ENT**.

2. Press ↓ to enter the Saved Trail list, then use ↑↓ to select the desired *Trail Name*|**ENT**.

3. Press ↓ → to **NAVIGATE|ENT**.

4. Press ↓ → to **REVERSE ROUTE|ENT|←** to **NAVIGATE|ENT**. The unit shows navigation information along the trail, in reverse.

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NOTE:
> If you are already located at or near the end of your trail, the arrival alarm will go off as soon as you hit Enter. Just press **EXIT** to clear the alarm and proceed.

5. Now, begin moving and let your unit guide you.

6. When you reach your destination, be sure to cancel your navigation. Press **MENU|MENU|↓** to **CANCEL NAVIGATION|ENT**. A confirmation message will appear. Press **←|ENT**.

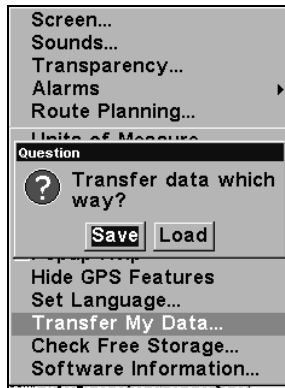# Transfer Custom Maps and GPS Data Files
Custom Maps:
Custom maps work only from the MMC card or SD card. When a card containing a Custom Map File is loaded into the unit, the unit automatically loads the map into memory when the unit is turned on.

Instructions for copying Custom Map Files to an MMC are contained in the instruction manual for your MMC card reader and MapCreate 6 software. For instructions on inserting an MMC into the unit, *see Sec. 2, Installation/Accessories*.

GPS Data files:
GPS Data Files contain waypoints, routes, trails and event marker icons. Instructions for copying GPS Data Files between your computer and an MMC are contained in the instruction manual for your MMC card reader and MapCreate 6 software.

```
Screen...
Sounds...
Transparency...
Alarms                    ▶
Route Planning...
Units of Measure
Question
 (?)  Transfer data which
      way?
      Save  Load
Popup Map
Hide GPS Features
Set Language...
Transfer My Data...
Check Free Storage...
Software Information...
```

You must enter which way you want to transfer data, from an MMC card to the unit (load) or from the unit to an MMC card (save).

GPS data automatically recorded in the unit's internal memory must be saved to the MMC (as a GPS Data File) in order to store it on your personal computer. GPS Data Files stored on an MMC must be copied from the card to the unit's internal memory before the unit can read them.

1. Insert the MMC into your unit. Press **MENU|MENU|↓** to **System Setup|ENT|↓** to **Transfer My Data|ENT**.

2. The Transfer My Data menu includes a message which tells you if an MMC is present or not. If no MMC is present, you must insert a card into the unit to activate the Load or Save commands.

To transfer data *from* **the unit** *to* **the MMC**: press **ENT** (for **Save**.)

To transfer data *from* **the MMC** *to* **the unit**: press → to **Load|ENT**.

3. **Saving to MMC**: To accept the default name "Data" for the GPS Data File, press ↓ to **Save Data|ENT**. If you want to rename the file (as shown in the following figures), press **ENT** to activate the selection box. Press ↑↓ to change the first character, then press → to the next character and repeat until the name is correct. Then press **ENT|↓** to **Save Data|ENT**.

The unit will display first a progress then a completion message when the data transfer is finished. To return to the Page view, repeatedly press **EXIT**.
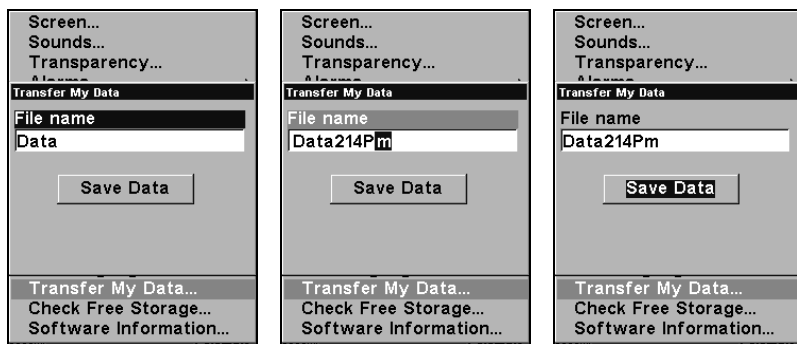
These figures (from left to right) show the menu sequence for naming and saving a GPS Data File from the unit's memory to an MMC.

4. **Loading to unit memory**: There may be more than one GPS Data File (*.USR) on the card. To select a file, press **ENT** to activate the selection box, use ↓↑ to highlight the file, then press **ENT** to accept the selection. Next, press ↓ to **Load Data|ENT**. The unit will display a completion message when the data transfer is finished. To return to the main page display, press **EXIT** repeatedly.
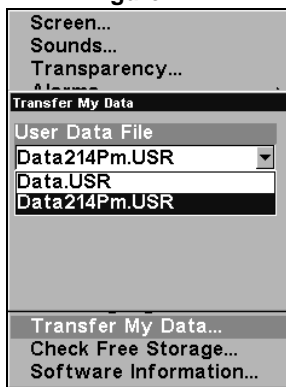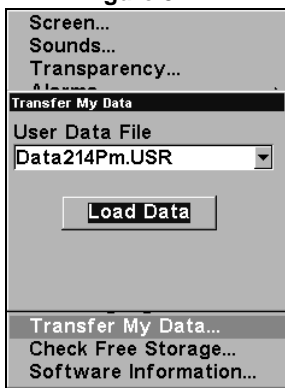
Figure 1.	Figure 2.

Screen...
Sounds...
Transparency...
Alarms...

Transfer My Data

User Data File
Data.USR ▼

Load Data

Transfer My Data...
Check Free Storage...
Software Information...

Screen...
Sounds...
Transparency...
Alarms...

Transfer My Data

User Data File
Data214Pm.USR ▼
Data.USR
Data214Pm.USR

Transfer My Data...
Check Free Storage...
Software Information...

Figure 3.	Figure 4.

Screen...
Sounds...
Transparency...
Alarms...

Transfer My Data

User Data File
Data214Pm.USR ▼

Load Data

Transfer My Data...
Check Free Storage...
Software Information...

Screen...
Sounds...
Transparency...
Alarms...

Transfer My Data

User Data File
Data214Pm.USR ▼

Notice
User data loaded
successfully.

Transfer My Data...
Check Free Storage...
Software Information...

**These figures show the menu sequence for loading a GPS Data File
from an MMC into the unit's memory.**

Cancel Navigation

You can turn off any of the navigation commands after you reach your
destination or at any other time by using the Cancel Navigation com-
mand. Press **MENU|MENU|↓** to **CANCEL NAVIGATION|ENT|←** to **YES|ENT**.

Section 4:
Advanced GPS Operations

Find Distance Current Position to Another Location

1. While on the Map Page press **MENU|↓** to **FIND DISTANCE|ENT**.

2. Center the cursor crosshairs on the position you want to find the distance to. A rubber band line appears, connecting your current position to the cursor's location. The distance along that line will appear in a pop-up box. The box also shows the bearing to the point selected by the cursor.

3. Press **EXIT|EXIT** to return to regular operation.
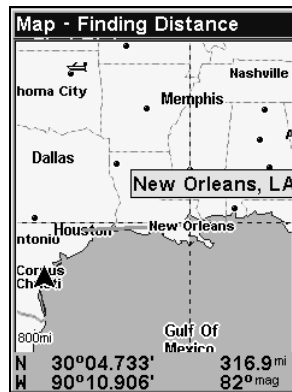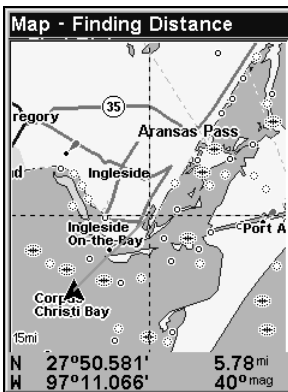
The distance from the boat's current position to the cove is 5.78 miles (left). The distance from Houston to New Orleans is 316.9 miles (right).

Find Distance From Point to Point

You can also measure distance between two other points on the map.

1. While on the Map Page press **MENU|↓** to **FIND DISTANCE|ENT**.

2. Center the cursor crosshairs on the first position. A rubber band line appears, connecting your *current* position to the cursor's location. Press **ENT** to set the first point and the rubber band line disappears.

3. Move the cursor to the second position. The rubber band line reappears, connecting the first point you set to the cursor. The distance along that line will appear in the pop-up box.

4. Press **EXIT|EXIT** to return to regular operation.
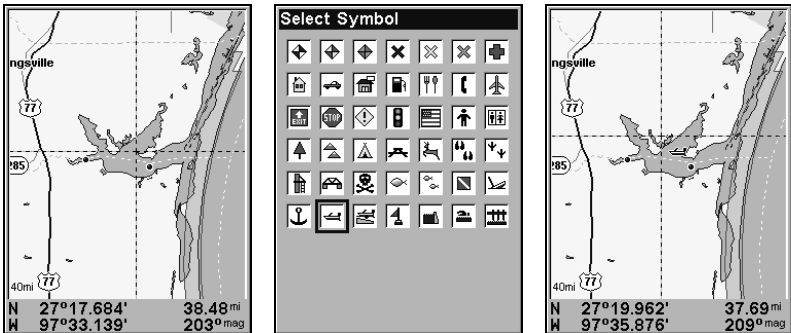
Icons

Icons are graphic symbols used to mark some location, personal point of interest or event. They can be placed on the map screen, saved and recalled later for navigation purposes. These are sometimes referred to as event marker icons. This unit has 42 different symbols to choose from when creating an icon.

Icons are similar to waypoints, but they do not store as much information (like names) as waypoints do. You can not use a menu to navigate to icons as you can with waypoints. But, you *can* use the map cursor and navigate to any icon on the map.

You can create an icon at the cursor position on the map or at your current position while navigating.

Create Icon on Map

1. Use the arrow keys to move the cursor to the place where you want to make an icon.

2. Press **ENT** and the screen shows the Select Icon Symbol menu.

3. Select the desired icon symbol and press **ENT**. The icon appears on the map. Press **EXIT** to clear the cursor.


Cursor selects icon location (left). Select Icon Symbol menu (center). Boat Ramp icon on map (right). (Cursor has been moved for clarity.)

Create Icon at Current Position

1. While you are traveling, press **ENT** and the screen shows the Select Icon Symbol menu.

2. Select the desired icon symbol and press **ENT**. The icon appears on the map.

Delete an Icon

You can delete all the icons at one time, all icons represented by a particular symbol or use the cursor to delete a selected icon from the map.
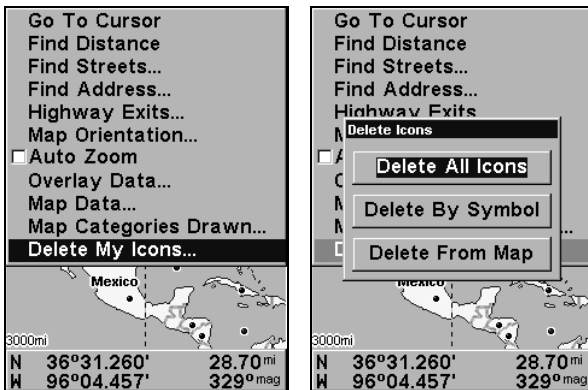
Delete icons menu.

1. Press **MENU|↓** to **DELETE MY ICONS|ENT**.

2. Press ↓ to **DELETE ALL ICONS**, **DELETE BY SYMBOL** or **DELETE FROM MAP** and press **ENT**.

3. The Delete All Icons confirmation message will appear. Press ← to **YES|ENT**. All icons will be deleted from the map.

The Delete by Symbol command will launch the Select Symbol menu. Select the desired icon symbol to delete and press **ENT**. A message appears saying all icons with the selected symbol have been deleted.

The Delete From Map command will prompt you to move the cursor over an icon to select it. After selecting the icon, press **ENT** and it disappears from the map.

Navigate to an Icon

To execute the Navigate to Cursor command, use the cursor to select the desired icon on the map.

1. Center cursor crosshairs on an icon.

2. To navigate to the icon press **MENU|ENT|EXIT**. Follow the course line on the Map Page or the compass bearing arrow on the Navigation Page.

Routes

A route is a series of waypoints, linked together in an ordered sequence used to mark a course of travel. You can visualize a route as a string of beads. The beads represent waypoints and the string represents the course of travel connecting waypoint to waypoint. The course from one waypoint to the next is a leg. Routes are composed of one or more legs. The legs of all GPS routes are based on straight lines between waypoints.

A route allows you to navigate through several waypoints without having to reprogram the unit after arriving at each waypoint. Once programmed into the GPS unit, a route provides the option of navigating forward through the route waypoints or in reverse order. You can even begin navigating in the middle of a route.

Create and Save a Route

You have the option of creating and editing a route in the unit or you can make a route on your computer with our MapCreate 6 software.

PC-created Routes

MapCreate is the easiest method for preparing a route, because your PC's larger screen, keyboard and mouse are easier to manipulate than the unit.

To load a MapCreate route into the unit, follow instructions in MapCreate's manual for creating a route and saving it as part of a GPS Data File (file format *.usr). Copy the GPS Data File to an MMC and insert the MMC in the unit. (See Sec. 2 for instructions on installing MMCs. To load the GPS Data File into the unit's memory, see the entry on *Transfer Custom Maps & GPS Data Files* in Sec. 6, *Basic GPS Operations*.)

Routes Created in the Unit

You can create a route by selecting existing waypoints from the waypoint list or you can set a series of route waypoints on the map with cursor arrows and the Enter key. In this example, we will create a route from the map.

1. From the **NAVIGATION PAGE**, press **MENU│ENT** or from the **MAP PAGE**, press **MENU│MENU│↓** to **ROUTE PLANNING│ENT**.
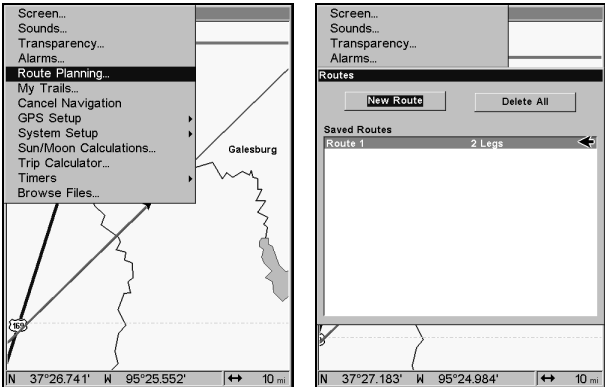

**Route Planning command on Main Menu (left).
Route List menu (right).**
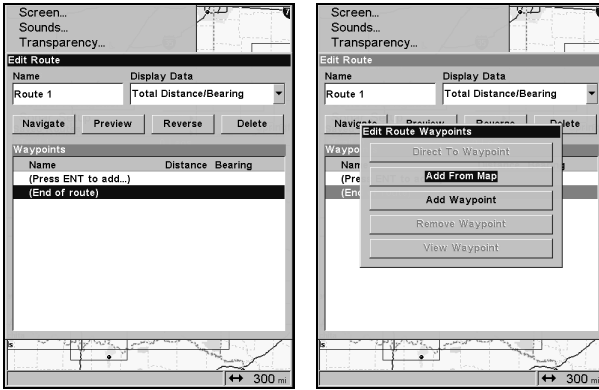
Edit Route menu (left). Edit Route Waypoints menu (right) with Add From Map command selected.

2. Press ↑ to **NEW ROUTE**, then press **ENT**. (To add to an existing route, press ↓ ↑ to *route name*|**ENT**.)

3. Press ↓ to **END OF ROUTE**|**ENT**|↓ to **ADD FROM MAP**|**ENT**. The Map Page appears with the cursor showing.

4. Use the Zoom and arrow keys to move the map and cursor until the cursor is centered on the spot where you want your route to begin.

5. To set the first route waypoint press **ENT**. In the example below, we moved to the entrance of the cove where our boat was docked.
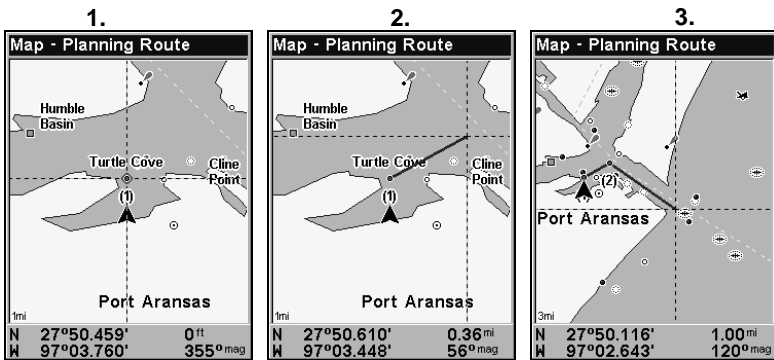
Route creation sequence: Fig. 1. Set route waypoint (1) at the cove entrance. Fig. 2. Move cursor northeast to set point (2) at channel entrance. Fig. 3. With point (2) set, move cursor southeast to mark channel exit with waypoint (3). In figures 2 and 3, notice the rubber band line extending from the previously set waypoint to the cursor. This line will become the course for the route.
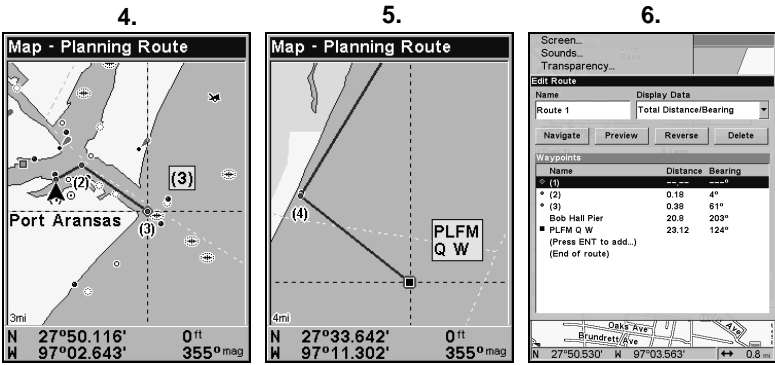
Route creation sequence, continued: Fig. 4. Point (3) set at channel mouth. Fig. 5. Waypoint (4) set further south along the beach, at a recognizable landmark (Bob Hall Pier). Waypoint PLFM Q W ends the route at an oil platform some distance from the shore. Fig. 6. Press EXIT to save the route and you return to this screen.

6. Move the cursor to the next point in the route, a spot where you need to turn or change direction and press **ENT** to set the next waypoint.

7. Repeat step six until the route reaches your destination.

8. To save your route, press **EXIT**. The unit reverts to the Edit Route screen, with the route automatically named "Route 1" and stored in the unit's internal memory.

You can edit the route and run other commands, but if you are finished with the route for now, return to the main page display by pressing **EXIT** repeatedly.

NOTE:

> When adding waypoints to an existing route, the inserted waypoints will appear in the route in front of the waypoint you have selected in the Edit Route menu. To insert waypoints at the end of the route, make sure to select **(END OF ROUTE)** before adding them.

Delete a Route

1. From the **NAVIGATION PAGE**, press **MENU|ENT** or from the **MAP PAGE** press **MENU|MENU|↓** to **ROUTE PLANNING|ENT**.

2. Press ↓ to *saved route name*|**ENT**.

3. Highlight **DELETE |ENT|←** to **YES|ENT**.

To Delete All Routes at Once:

1. From the **NAVIGATION PAGE**, press **MENU|ENT** or from the **MAP PAGE** press **MENU|MENU|↓** to **ROUTE PLANNING|ENT**.

2. Highlight **DELETE ALL|ENT|←** to **YES|ENT**.

Edit a Route Name

1. From the **NAVIGATION PAGE**, press **MENU|ENT** or from the **MAP PAGE** press **MENU|MENU|↓** to **ROUTE PLANNING|ENT**.

2. Highlight *Saved Route Name*|**ENT**|↑ to *Name*|**ENT**.

3. Press ↑↓ to change the first character, then press → to move to the next character and repeat until the name is correct. Press **ENT**. To return to the main page display press **EXIT** repeatedly.

Edit Route Waypoints

You can edit the route by adding and removing waypoints.

1. From the **NAVIGATION PAGE**, press **MENU|ENT** or from the **MAP PAGE** press **MENU|MENU|↓** to **ROUTE PLANNING|ENT**.

2. Press ↓ to *saved route name*|**ENT**|↓ to Route Waypoints List. Use ↓↑ to select a waypoint and press **ENT**.
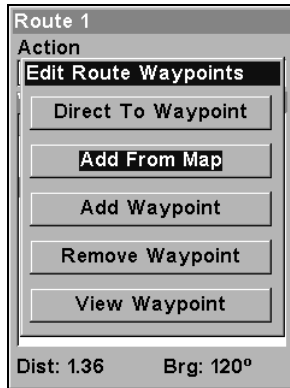

Edit Route Waypoints menu.

3. Use ↓↑ to select a command from the Edit Route Waypoints menu and press **ENT**. Add From Map lets you insert a waypoint in the route. Add Waypoint calls up the Waypoint List so you can insert a waypoint from the list. Remove Waypoint will delete the waypoint from the route. View Waypoint will show you where the waypoint is on the map.

NOTE:

> When adding waypoints to a route, the inserted waypoints will appear in front of the waypoint you have selected. To insert waypoints at the end of the route, select **(ROUTE END)** before adding them.

Navigate a Route

1. From the **NAVIGATION PAGE**, press **MENU|ENT** or from the **MAP PAGE**, press **MENU|MENU|↓** to **ROUTE PLANNING|ENT**.
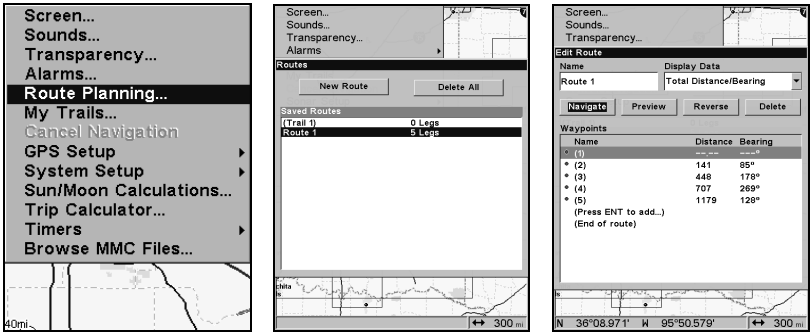
Route Planning command on Main Menu (left). Routes menu (center). Edit Route menu (right) with Navigate Route command selected.
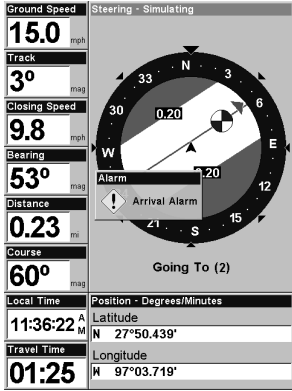
2. Press ↓ to select *saved route name*|**ENT**. Highlight **NAVIGATE** and press **ENT**.

3. Upon arrival at your destination, cancel navigation.
Press **MENU**|**MENU**|↓ to **CANCEL NAVIGATION**|**ENT**|← to **YES**|**ENT**.

Figure 1.   **Figure 2.**

Navigating along a route: Fig. 1 shows the Navigation Page at the start of a route, heading straight for the first waypoint (Wpt 1). In Fig. 2, the traveler has arrived at Wpt 1; the arrival alarm has been triggered and the bearing arrow on the compass rose has turned to point toward Wpt 2, off to the northeast.

Figure 3.

Figure 4.
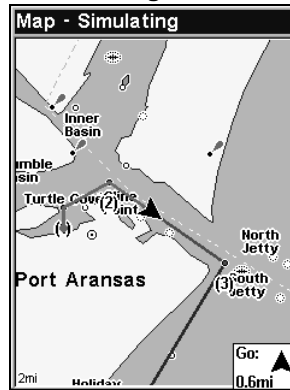
In Fig. 3 the traveler has turned northeast on his new course and is heading straight for Wpt 2, which is 0.20 miles away. Fig. 4 shows route navigation on the Map Page. In this figure, the traveler has reached Wpt 2 and is starting on the leg between Wpts 2 and 3.

Navigate a Route in Reverse

Here's how you run a route backward, from the end waypoint to the beginning waypoint:

1. From the **NAVIGATION PAGE**, press **MENU|ENT** or from the **MAP PAGE**, press **MENU|MENU|↓** to **ROUTE PLANNING|ENT**.

2. Press ↓ to *saved route name*|**ENT**. Press ↓ → to **REVERSE|ENT|←** to **NAVIGATE |ENT**.

3. Upon arrival at your destination, cancel navigation: press **MENU|MENU|↓** to **CANCEL NAVIGATION|ENT|←** to **YES|ENT**.
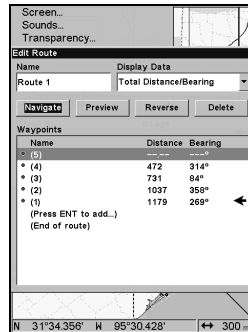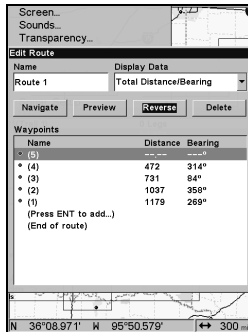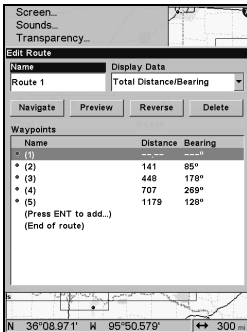
Edit Route screen showing Route 1 with waypoints set to normal navigation (left). Reverse command has been executed (center) reversing the order of waypoints on the route. Pressing Navigate (right) will allow you to navigate the route from the end to the beginning.

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Trails

Delete a Trail

This is the command used to erase or delete a trail. Press **MENU|MENU|↓** to **MY TRAILS|ENT|↓** to *trail name*|**ENT|→** to **DELETE TRAIL|ENT|←** to **YES|ENT**.

### To Delete all trails at once:

    1. Press **MENU|MENU|↓** to **MY TRAILS|ENT**.

    2. Press **→** to **DELETE ALL|ENT|←** to **YES|ENT**.

Edit a Trail Name

To edit a trail name press **MENU|MENU|↓** to **MY TRAILS|ENT|↓** to *trail name*|**ENT|ENT**. Press **↑ ↓** to change the first character, then press **→** to the next character and repeat until the name is correct. Press **ENT** then **EXIT** repeatedly to get back to the main page display.

Tip:

    You can quickly call up the Edit Trail menu by selecting a trail on the map with the cursor. Move the cursor over a trail and a pop-up box appears. Press **WPT** and the Edit Trail menu opens.
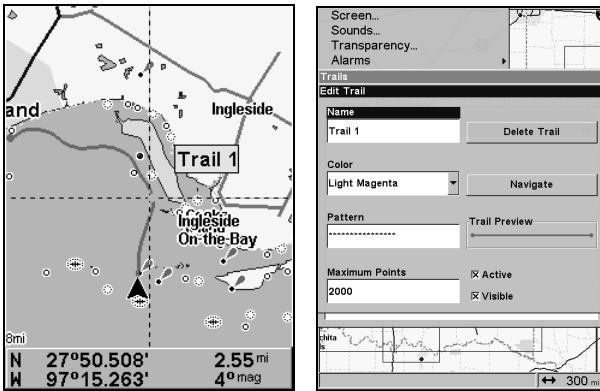
Trail selected with map cursor (left). The box at the bottom of the screen shows distance and bearing from current position to the selected point on the trail. The Edit Trail menu (right).

Edit a Trail Color

To edit a trail color press **MENU|MENU|↓** to **MY TRAILS|ENT|↓** to *trail name*|**ENT|↓** to **COLOR|ENT**. Press **↑ ↓** to select a color style, then press **ENT**. Press **EXIT** repeatedly to return to the main page display.

Edit a Trail Pattern

To edit a trail pattern press **MENU**|**MENU**|↓ to **M**y **T**rails|**ENT**|↓ to *trail name*|**ENT**|↓ to **P**attern|**ENT**. Press ↑ ↓ to change the first character, then press → to the next character and repeat until the pattern is correct. Press **ENT**. To get back to the main page press **EXIT** repeatedly.
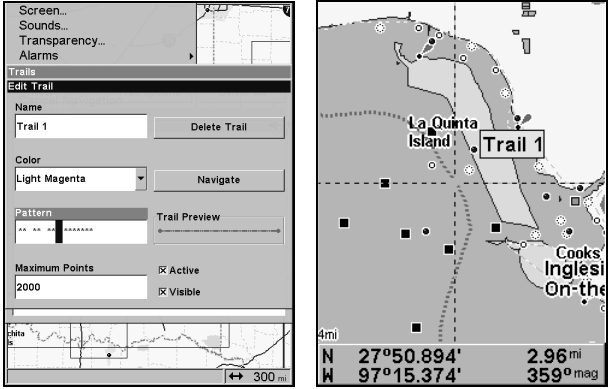
Edit Trail Menu with Pattern option selected (left). Edited trail with dotted line pattern (right).

Utilities

Utilities are useful tools for traveling or for outdoor activities.

Alarm Clock

To get to the alarm clock menu press **MENU**|**MENU**|↓ to **T**imers|**ENT**|↓ to **A**larm **C**lock|**ENT**.

Sun/Moon Rise & Set Calculator

To get to the Sun/Moon menu press **MENU**|**MENU**|↓ to **S**un/**M**oon **C**alculations|**ENT**.

Trip Calculator

To get to the Calculator menu press **MENU**|**MENU**|↓ to **T**rip **C**alculator|**ENT**.

Trip Down Timer

To get to the Down Timer menu press **MENU**|**MENU**|↓ to **T**imers|**ENT**|↓ to **D**own **T**imer|**ENT**.

Trip Up Timer

To get to the Up Timer menu press **MENU**|**MENU**|↓ to **T**imers|**ENT**|**ENT**.

Waypoints

Delete a Waypoint

To delete a waypoint from the waypoint list press **WPT**|↑ to **MY WAYPOINTS**|**ENT**|↓ to *Name*|**ENT**. Press ↑↓ to select the desired character then press → to choose the next character. After the desired waypoint is highlighted in the list, press **ENT**|**ENT**. Use ↓ to select **DELETE WAYPOINT** then press |**ENT**|← to **YES**|**ENT**. To return to the main page display, press **EXIT** repeatedly.

To delete a waypoint from the map:
1. Use the arrow keys to select a waypoint with the cursor.

2. Press **WPT** to view the **WAYPOINT INFORMANTION** screen, then ↓ to **DELETE WAYPOINT**|**ENT**|← to **YES**|**ENT**. To return to the main page display, press **EXIT** repeatedly.

To delete all waypoints at one time, press **MENU**|**MENU**|↓ to **SYSTEM SETUP**|**ENT**|↓ to **DELETE ALL MY WAYPOINTS**|**ENT**|← to **YES**|**ENT**. To return to the previous page, press **EXIT**|**EXIT**.

Edit a Waypoint

To edit waypoint name:
1. Press **WPT**|↑ to **MY WAYPOINTS**|**ENT**|↓| to *name*|**ENT**. Choose desired waypoint from the list by using ↑↓ to select first character, then press → to choose the next character. After the desired waypoint is highlighted in the list, press **ENT**|**ENT** to access waypoint information screen.

 2. Use ↓ to select **EDIT WAYPOINT**, then press **ENT**|**ENT**. Press ↑↓ to change the first character, then press → to the next character and repeat until the name is correct. Press **ENT.** To get back to the main page display, press **EXIT** repeatedly.

To edit waypoint symbol:
1. Press **WPT**|↑ to **MY WAYPOINTS**|**ENT**|↓ to *name*|**ENT**. Select waypoint from the list then press **ENT**|**ENT**. Use ↓ to select **EDIT WAYPOINT**. Press|**ENT**|↓ to **CHOOSE SYMBOL**|**ENT**.

2. Select the desired symbol and press **ENT**. To get back to the main page display, press **EXIT** repeatedly.

To edit waypoint position:
1. Press **WPT**|↑ to **MY WAYPOINTS**|**ENT**|↓ to *name*|**ENT**. Select the desired waypoint and press **ENT**|**ENT**. Press ↓ to **EDIT WAYPOINT**|**ENT**.

2. Latitude: press → to **LATITUDE**|**ENT**. Press ↑ ↓ to change the first char-
acter, then press → to the next character and repeat until the latitude
is correct. Press **EXIT**.

3. Longitude: press ↓ to **LONGITUDE**|**ENT**. Press ↑ ↓ to change the first
character, then press → to the next character and repeat until the lon-
gitude is correct. Press **EXIT**. To return to the main page display, press
EXIT repeatedly.

Selecting a Waypoint
To select a waypoint on the map center the cursor crosshairs on the
waypoint. A red border will appear around the waypoint.

Set a Waypoint by Average Position
A waypoint set by average position is created after several position
readings have been averaged. This boosts waypoint position accuracy
by helping to eliminate errors caused by atmospheric conditions and
other factors.

1. Press **WPT**|↑ to **MY WAYPOINTS**|→ to **NEW**|**ENT**.

2. Press ↓ ↑ to **AVERAGE POSITION**|**ENT**| press → to **CREATE**|**ENT**.

3. Wait while the unit takes points to get an average for the position. The
greater the number of points, the greater the accuracy. When the desired
number of points accumulates, press **ENT** to create the waypoint.

4. The Edit Waypoint menu appears. Press **EXIT** repeatedly to get back
to the main page display.

Set a Waypoint by Projecting a Position

This feature creates a waypoint at a location a specific distance and
bearing from a reference position. The reference position can be a way-
point, map feature or Point of Interest.

1. Press **WPT**|↑ to **MY WAYPOINTS**|→ to **NEW**|**ENT**.

2. Press ↓ to **PROJECTED POSITION**|**ENT**|→ to **CREATE**|**ENT**.

3. Select **CHOOSE REFERENCE**|**ENT**. Use ↑ ↓ to select a waypoint, map fea-
ture or Point of Interest. When a selection has been made press **ENT.**
Press →, ↑ ↓ to choose a subcategory, then press **ENT**. Highlight
NAME|**ENT**. Spell out the name of the desired reference point in the Find
By Name box or press **ENT** to the find the point in the list below. After
you have selected a point, press **ENT**. That will launch the waypoint
information window. Highlight **SET REFERENCE** and press **ENT.**

4. Press ← ↓ to **Distance|ENT**. Press ↑ ↓ to change the first character, then press → to the next character and repeat until the distance is correct. Press **ENT**.

5. Press ↓ to **Bearing|ENT**. Press ↑ ↓ to change the first character, then press → to the next character and repeat until the bearing is correct. Press **ENT**.

6. Press ↑ to **Project|ENT**. The Edit Waypoint menu appears. Press **EXIT|EXIT** to get back to the main page display or press **EXIT|ENT** to navigate to the new waypoint.

Section 5:
System & GPS Setup Options

Alarms

This unit has three GPS alarms: Arrival Alarm, Off Course Alarm and Anchor Alarm — the only one of the three set to Off by default.

You can set an arrival alarm to flash a warning message and sound a tone when you cross a preset distance from a waypoint. For example, if you have the arrival alarm set to .1 mile, the alarm will flash a message when you come within .1 mile of your destination.

The off course alarm warns you when your track drifts too far to the right or left of the course line to your destination. For example, if the alarm is set to .1 mile, then the alarm flashes a message if you drift .1 miles or more to the right or left of the course line.

The anchor alarm is triggered when you drift outside of a preset radius. If you are anchored and your boat moves more than .1 miles, the alarm will flash a message and sound a tone.
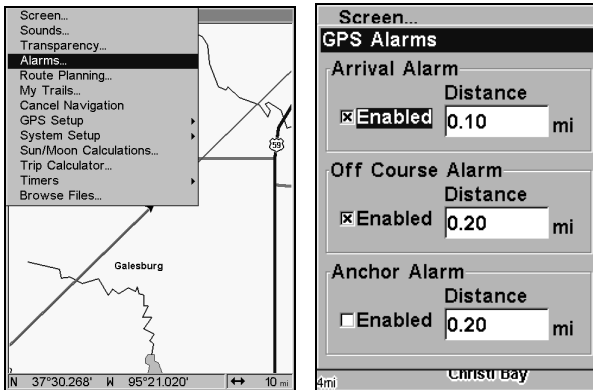
Alarms command (left). Alarm menu (right).

To change alarm settings:
1. Press **MENU|MENU|↓** to **ALARMS|ENT**.

2. Scroll ↓ ↑ to select the desired category, then press **ENT** to turn on (check) or turn off (uncheck) the desired alarm.

3. To change distance settings, select the desired alarm, then press →|**ENT** to activate the distance dialog box. Press ↑ ↓ to change the first character, then press → to the next character and repeat until you are

satisfied with the distance setting. If you want to enable the other alarms, repeat steps 2 and 3.

4. Press **EXIT** repeatedly to get back to the main page display.

IMPORTANT ALARM NOTES:

Anchor Alarm - The anchor alarm may be triggered even when you are sitting still. This usually happens when using small — less than .05 mile — anchor alarm ranges.

Arrival Alarm - If the arrival alarm distance is set to a small number, the unit may not show navigation data to the next waypoint after you arrive at the first one. That occurs when you are not able to come close enough to the first waypoint to trip the arrival alarm.

Check MMC Files and Storage Space

To check MMC Files:

Press **MENU**|**MENU**|↓ to **BROWSE MMC FILES**|**ENT**. Press ↓ to **MMC CARD INFO**|**ENT** to see the free space on the card.
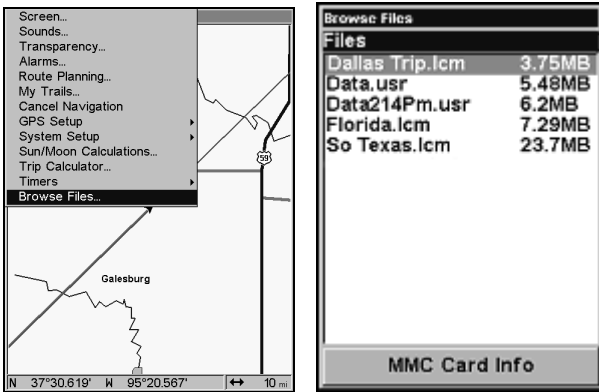

Main Menu (left). MMC File Browser (right).

Communications Port Configuration

This unit has one NMEA 0183 version 2.0 compatible communication port. The Com Port Menu, accessed from the System Setup Menu, allows you to configure the communications port to send or receive data to another electronic device. The com port can be used for NMEA or SiRF Binary data transfer.

To set Com Port Configuration:

1. Press **MENU**|**MENU**|↓ to **SYSTEM SETUP**|**ENT**.

2. Press ↓ to **COMMUNICATIONS PORT**|**ENT**.
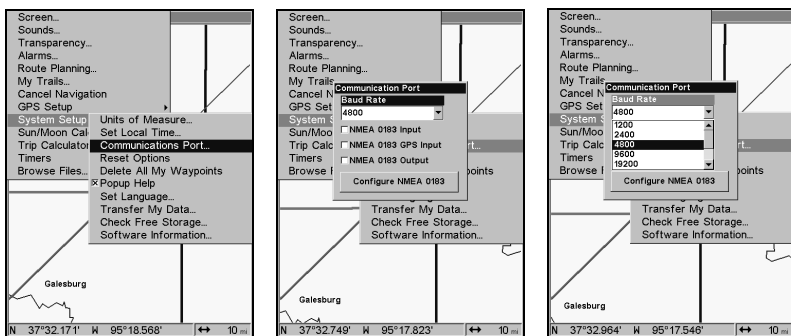
Menus for changing Com Port settings.

For assistance in configuring the unit to communicate with another device, consult the factory. Customer service phone numbers are in the back of this manual. Also see the entry below for *Configure NMEA*.

Configure NMEA

You can configure the unit to use specific NMEA sentences.

1. Press **MENU**|**MENU**|↓ to **SYSTEM SETUP**|**ENT**.

2. Press ↓ to **COMMUNICATIONS PORT**|**ENT**|↓ to **CONFIGURE NMEA 0183**|**ENT**.

3. A menu appears showing the prefixes of the available NMEA sentences. A check mark next to a prefix means the prefix is in use. Use ↑ ↓, ← → to select a prefix, then press **ENT** to turn it on or off.

NOTE:

The names of the NMEA sentences are abbreviated in this menu. These are the functions of the various selectable prefixes:

- GLL transmits latitude and longitude of present position, time of position fix, and status.

- RMC and RMB transmits navigation information messages.

- APB transmits autopilot information.

- GGA transmits time, position, and fix related data.

- GSA and GSV transmits fix mode, DOP values, and satellites in view information.

- DBT transmits the depth below the transducer.

- DPT transmits the depth

- MTW transmits the water temperature.

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- VLW transmits the distance traveled through water as measured by the paddle wheel.
- VHW transmits the water speed as measured by the paddle wheel.

4. When the desired prefixes are turned on, press **EXIT** repeatedly to get back to the main page display.

Coordinate System Selection

The Coordinate System Menu lets you select the coordinate system to use when displaying and entering position coordinates.
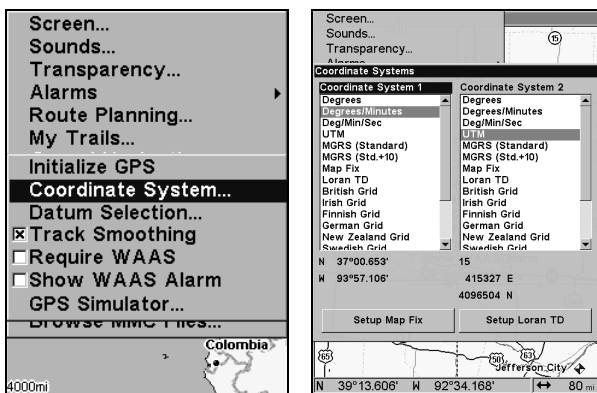
Menus used for changing coordinate system.

To get to Coordinate System Selection:

1. Press **MENU|MENU|↓** to **GPS SETUP|ENT**.

2. Press **↓** to **COORDINATE SYSTEM|ENT**.

This unit can show a position in degrees (36.14952°); degrees, minutes and thousandths of a minute (36° 28.700'); or degrees, minutes, seconds and tenths of a second (36° 28' 40.9"). It can also show position in: UTM (Universal Transverse Mercator) projection; MGRS (Standard); MGRS (Standard + 10); Map Fix; Loran TD; British, Irish, Finnish, German, New Zealand, Swedish, Swiss, Taiwan and Greek grid systems.

UTM's are marked on USGS topographic charts. This system divides the Earth into 60 zones, each 6 degrees wide in longitude.

British, Irish, Finnish, German, New Zealand, Swedish, Swiss, Taiwan, and Greek grid systems are the national coordinate system used only in their respective countries. In order to use these grid systems, you must be in the respective country. This unit will pick the matching datum for you when you select the grid. See the entry on Map Datum Selection for more information.

The Military Grid Reference System (MGRS) uses two grid lettering schemes, referred to as standard and standard + 10 MGRS on this unit. Your position and datum in use determines which one to use. If you use standard and your position is off significantly, then try the alternate.

NOTE:

> When the position format is changed, it affects the way all positions are shown on all screens, including waypoints.

To change the coordinate system, press **ENT** while **COORDINATE SYSTEM** is highlighted. Use ↑↓ to highlight the desired format. Press **ENT** to select it.

To setup Loran TD:
NOTE:

> If the Loran TD conversion is chosen, you must enter the local Loran chain identification for the master and slaves. Do this by selecting Setup Loran TD at the bottom of the Coordinate System menu, then selecting the desired ID. Press **EXIT** to close this menu.
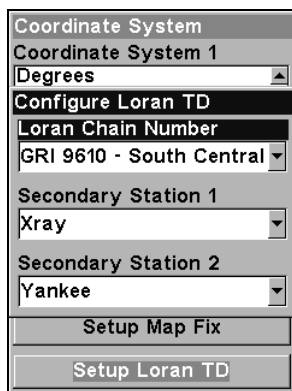
Configure Loran TD menu.

Customize Page Displays

Every Page display option except Full Map page option has customizable data boxes to provide constant on-screen information.

To change the information displayed in a data box:

On the page with a digital data box you want to change, press **MENU|↓** to **CUSTOMIZE|ENT**.

1. A data box name flashes, indicating it is selected. Press **ENT** to change the data in that box or use ↑↓, ← → to select another box to customize. With the desired data box highlighted and flashing, press **ENT** to access the Data Viewer menu.

The Data Viewer menu has four categories: GPS Data, Navigation, Trip Calculator and Time. Each category has its own data option menu.
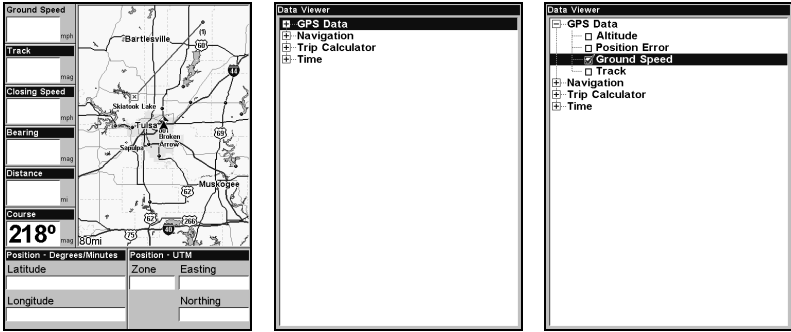
Ground Speed flashing on Two Position Map page (left). Data Viewer menu with no open categories (center). GPS data category opened with Ground Speed selected (right).

2. Select a data category. If the desired category is flanked by a "+", a list of data options will appear when you highlight the category and press **ENT**. After opening a category it will have a "−" next to it. To close the category, highlight it and press **ENT**.

4. Open the desired category and use ↑↓ to select the desired data option and press **ENT** to turn it on (check) or turn it off (uncheck) and press **EXIT**.

5. If you want to change the data in another digital data box, use ↑↓ and press **ENT** when the desired box is highlighted. If you are satisfied with the current display, press **EXIT** to return to normal operation.

A Page display can show a limited number of data boxes. You can not turn them off or add more data boxes.

GPS Simulator

The GPS simulator simulates real world navigation. It is a great way to practice using your unit. You can set the starting location by entering latitude/longitude or from a stored waypoint, map place or POI location. You can steer the position arrow and change speed on the map by using the arrow keys — **STEER WITH ARROWS** command — or by setting the track and speed in the dialog boxes provided on the simulator menu screen.

To get to the GPS Simulator:

1. Press **MENU|MENU|↓** to **GPS SETUP|ENT**.

2. Press ↓ to **GPS SIMULATOR|ENT**. The GPS Simulator Menu appears.
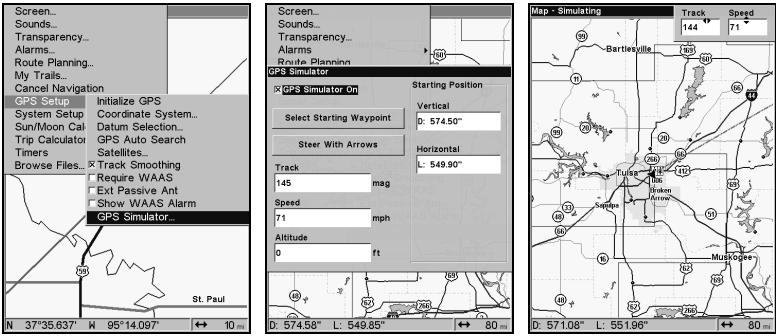
GPS Setup Menu (left). GPS Simulator menu (center).
Map Page showing Steer with Arrows dialog boxes (right). The traveler is following a track of 144º at a speed of 71 miles per hour.

Choose the desired settings, then turn on the simulator by highlighting the **GPS SIMULATOR ON** box and pressing **ENT**. Press **EXIT** repeatedly to get back to the main page display. A message and tone appear periodically to remind you the simulator is on. To turn off the simulator, repeat the steps above or turn off the unit.

If you selected the Steer with Arrows command and want to remove the dialog boxes from the screen, press **EXIT**. That will clear the track and speed boxes without disrupting the simulation and allow you to use the map cursor.

Simulating Trail or Route Navigation

In Simulator mode, your unit can automatically follow a trail or route without manual steering if you use these steps:

1. From the Map Page, go to the simulator menu. Pick a **STARTING POSITION** at or near the beginning of your trail/route. Enter an approximate **TRACK** (shown in compass degrees) that will point you toward the start of the trail/route.

2. Set **SPEED** to zero. Select **STEER WITH ARROWS** command and press **ENT**, which turns on the simulator and returns you to the Map Page.

3. Begin navigating along the trail/route. (If you are close enough to the first waypoint, the arrival alarm will usually go off as soon as navigation begins. Press **EXIT** to clear the alarm.) When navigation starts, press ↑ to increase speed to the desired setting.

4. Press **EXIT** to turn off the steering and speed boxes. The unit will now automatically steer along the trail or route. When you arrive at your destination, cancel navigation.

Tip:

> You can pick any spot on the map to begin a simulation by using the Initialize GPS command. It allows you to move the position arrow to any location on the map. The command is detailed below.

Initialize GPS

In simulator mode, the Initialize GPS command makes the unit operate as if it is sitting someplace other than its actual location. So you and your unit could be located in Kansas City, but practice navigating in the ocean off Islamorada, Florida.

NOTE:

> Remember: if you want to run a simulation in a place other than your current location, you first must Initialize the GPS, then turn on the GPS Simulator.

1. Press **MENU|MENU|↓** to **GPS SETUP|ENT|ENT**.

2. A message appears, telling you to move the cursor near the desired location and press **ENT**. When the message automatically clears, follow the message instructions.

3. In a moment, your present position marker arrow appears on the map in the location you selected with the cursor. The unit will consider that spot as its last known position until changed by either a live satellite lock-on or a new simulator location.

Map Auto Zoom

This receiver has an auto zoom feature that eliminates a lot of the button pushing common with other brands of GPS receivers. It works in conjunction with the navigation features.

Start navigating to a waypoint. Then, with the auto zoom mode on, the unit zooms out until the entire course shows, from the present position to the destination waypoint. As you travel toward the destination, the unit automatically zooms in — one zoom range at a time — keeping your current position and the destination on the screen.

To turn this feature on from the **MAP PAGE**, press **MENU|↓** to **AUTO ZOOM|ENT|EXIT**. Repeat these steps to turn it off.

Map Data

From the Map Data menu, you can turn off the map — which will turn the map into a GPS plotter — turn on or off pop-up map info boxes, draw map boundaries and fill water areas with white. You also can turn on or off Map Overlays, like range rings and latitude and longitude grid lines.
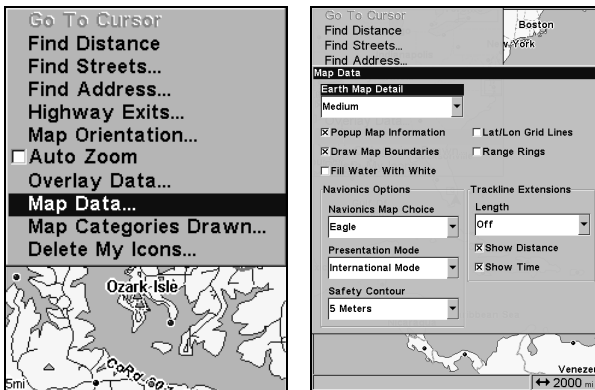
Map menu (left). Map Data menu (right).

From the Map Page, you can access the Map Data menu by pressing
MENU|↓ to **MAP DATA**|**ENT**.

Earth Map Detail

From the Map Data menu, highlight **EARTH MAP DETAIL** and press **ENT**.
Select the desired level of map detail from four options: Off, Low, Me-
dium or High. After the option is set, press **EXIT**.

Pop-up Map Information

From the Map Data menu, highlight **POPUP MAP INFORMATION** and press
ENT to turn it on (check) or turn it off (uncheck). After the option is set,
press **EXIT**.

Draw Map Boundaries

From the Map Data menu, highlight **DRAW MAP BOUNDARIES** and press **ENT**
to turn it on (check) or turn it off (uncheck). After the option is set,
press **EXIT**.

Fill Water With White

From the Map Data menu, highlight **FILL WATER WITH WHITE** and press
ENT to turn it on (check) or turn it off (uncheck). After the option is set,
press **EXIT**.

Map Overlays (Range Rings; Lat/Long Grid)

The map screen can be customized with four range rings and/or grids
that divide the map into equal segments of latitude and longitude.

Range rings are handy for visually estimating distances on the map. The
ring diameters are based on the current zoom range. At a 100-mile zoom,
the screen will show two rings with your current position in the center.
The large ring touching the left and right sides of the screen is 100 miles

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in diameter (same as the zoom range). The second smaller ring is 50 miles in diameter (always 1/2 the zoom range).

The distance from your current position to the smaller ring (the ring's radius) is 25 miles (always 1/4 the zoom range). With the map cursor, you can scroll over to see the third and fourth rings. In this example, the distance to the third ring is 75 miles and distance to the fourth ring is 100 miles from your current position.

To set range rings: From the Map Data menu, highlight **RANGE RINGS** and press **ENT** to turn them on (check) or turn them off (uncheck). After the option is set, press **EXIT**.

To set Lat/Long Grid: From the Map Data menu, highlight **LAT/LON GRID LINES** and press **ENT** to turn them on (check) or turn them off (uncheck). After the option is set, press **EXIT** repeatedly to get back to the main page display.

Map Datum Selection

Maps and charts are based on a survey of an area covered by a map or chart. These surveys are called Datums. Maps created using different datums will show the same latitude/longitude in slightly different locations.

All datums have a name. The GPS system is based on the WGS-84 datum, which covers the entire world. Other datums may cover the entire world or just a small portion of it. By default, your position is shown with the WGS-84 datum. It, however, can show your position using any of 191 different datums.

To change the Datum:

1. Press **MENU|MENU|↓** to **GPS SETUP|ENT|↓** to **DATUM SELECTION|ENT**.

2. Select the desired datum and press **ENT**.

3. To return to the main page display, press **EXIT|EXIT**.

A list of the datums used by this unit is in the back of this manual.
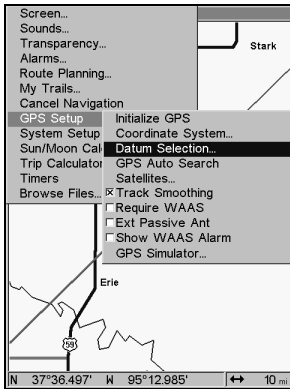
GPS Setup Menu (left). Map Datum Menu (right).

Map Detail Category Drawn

This menu determines what mapping features are shown on the screen. This includes, waypoints, trails, icons, cities and highways, etc. You can turn on or off any of these items, customizing the map to your needs.
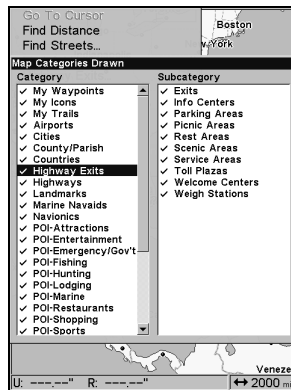
Map Menu (left). Map Categories Drawn Menu (right).

To get to Map Categories Drawn:
1. From the Map Page, press **MENU**|↓ to **MAP CATEGORIES DRAWN**|**ENT**.

2. Scroll through the list of categories. Press **ENT** to turn on (check) or turn off (uncheck) a category. When a category is on, press → to jump to the subcategory window. Press **ENT** to turn on or off subcategories.

3. Press **EXIT**|**EXIT** to get back to the main page display.

Map Fix

Map Fix is used with charts or maps. This system asks for a reference position in latitude/longitude, which you take from a marked location

on the map. It then shows the present position as distance on the map from that reference point.

For example, if it shows a distance of UP 4.00" and LEFT 0.50", you then measure up four inches and to the left a half-inch from the reference point on the map to find your location.

To configure a map fix:
To use this format, you need to follow these steps in order. Take a map of the area and determine a reference latitude/longitude.

NOTE:

> In order for this system to work, the latitude/longitude lines must be parallel with the edge of the map. USGS maps are parallel, others may not be. Also, this works better with smaller scale maps, such as 1:24000.

The reference position can be anywhere on the map, but the closer it is to your location, the smaller the numbers you will be working with.

Once you have decided on a reference position, you can save it as a waypoint. See the waypoint section for information on saving a waypoint. Save the reference position as a waypoint. Exit the waypoint screens.

1. Press **MENU|MENU|↓** to **GPS SETUP|ENT**.

2. Press **↓** to **COORDINATE SYSTEM|ENT**.

3. Press **↓** to **SETUP MAP FIX|ENT**.

The screen below appears, and **MAP SCALE** is highlighted. Press **ENT** and enter the map's scale. This is generally at the bottom of the paper map. It's shown as a ratio, like 1:24000. Press **EXIT** and the unit returns to the Configure Map Fix screen.
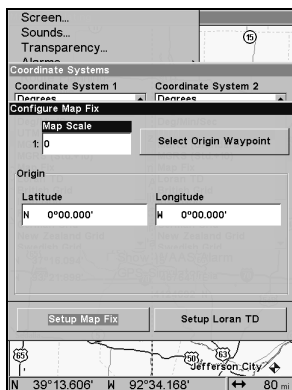

**Configure a map fix so the unit can find your position
on a printed chart or topographical map.**

Press → to **SELECT ORIGIN** | **ENT** to bring up the waypoint and POI list. Select the waypoint (or a landmark of POI) you saved the reference point under and press **ENT** | **ENT**. Spell out the name of the waypoint, landmark or POI in the Find By Name box or press **ENT** to select the item from the list below. Highlight the waypoint, landmark or POI and press **ENT**. The unit displays a waypoint information screen with the command **SET AS ORIGIN** selected. Press **ENT** and the unit returns to the Configure Map Fix menu. Finally, press **EXIT** to close this menu. Now press ↑ to **COORD SYSTEM** | **ENT**, select **MAP FIX** from the list and press **ENT**. Press **EXIT** repeatedly to get back to the main page display where all position information now is shown as a distance from the reference point you chose.

Map Orientation

By default, this receiver shows the map with north always at the top of the screen. This is the way most maps and charts are printed on paper.

In Track Up mode, map shows "N" show which direction is north.
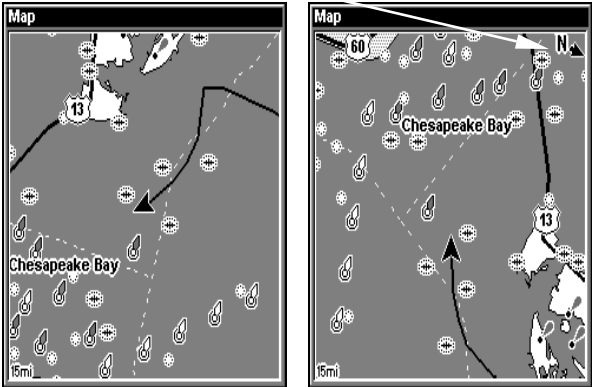
Map orientation shown in north up (left) and track up (right).

This is fine if you are always traveling north. What you see to your left and right corresponds with the left and ride sides of the map. But if you travel any other direction, the map does not line up with your view.

To correct this problem track-up mode rotates the map as you turn. So what you see on the left side of the screen should always be to your left and so on.

Another option is course-up mode, which keeps the map at the same orientation as the initial bearing to the waypoint. When either track-up or course-up modes are on, an "N" shows on the map screen to keep you aware of which direction is north.

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To change map orientation from the Map Page, press **MENU**|↓ to **MAP ORIENTATION**|**ENT**. Use ↑ ↓ to select the desired mode, then press **ENT**. Press **EXIT**|**EXIT** to return to the page display.
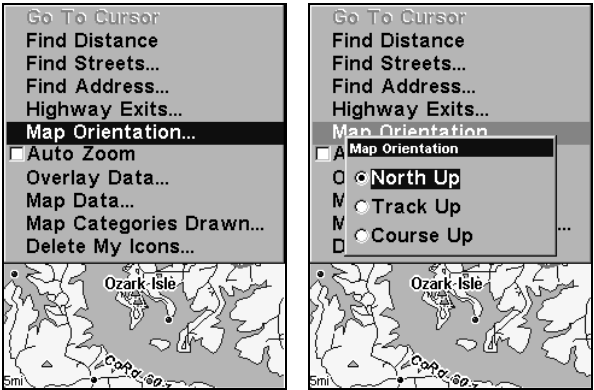
**Map Menu (left). Map Orientation menu with the North Up selected (right).**

NOTE:

In North Up and Course Up, the present position arrow appears in the center of the map page. In Track Up, the position arrow appears centered in the lower third of the page.

NauticPath™ USA Marine Charts

Your unit can display NauticPath electronic charts on MMCs. They work just like a MapCreate custom map on a MMC.

Nautical Chart Notes

NauticPath charts contain notes or chart information, represented by circle-i Chart Note icons on the map display. An example is shown in the following figure.
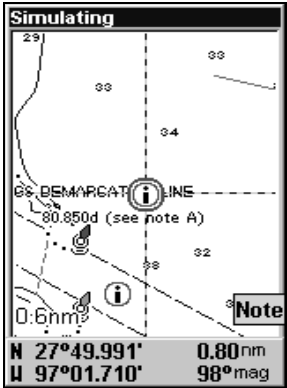
NauticPath chart showing Chart Note icon selected by cursor (left).

To view Chart Note information:

1. Use the arrow keys to move the cursor over a Chart Note icon. When it's selected, a pop-up name box appears.

2. Press **WPT** to display the Note Information screen.

3. To scroll through the Chart Note screen, use ↑↓ arrow keys to read the information. To return to the main page display, press **EXIT** repeatedly.
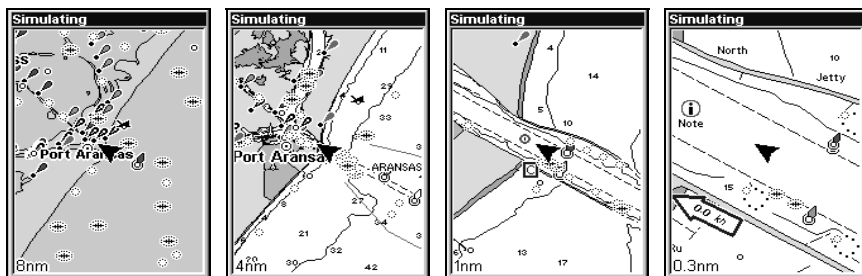
**Entrance to Aransas Pass on a NauticPath chart with 8-nautical mile zoom (left). Remaining images (left to right): same position at 4-nautical mile, 1-nautical mile and 0.3- nautical mile zoom ranges.**

Port Information

NauticPath charts contain Port Services information, represented by anchor icons on the map display. These icons will appear when you are zoomed in to a 4-nautical mile range. An example is displayed in the following figures.

To view Port Services information:

1. Use the arrow keys to move the cursor over a Port Services icon. When it is selected, a pop-up name box appears.

2. Press **WPT** to display the Port Services Information screen. The Port Services information screen for a NauticPath chart contains all the service information in one window.

3. To scroll through the service information window, use ↑↓ to see the types of services available. To return to the main page display, press **EXIT** repeatedly.
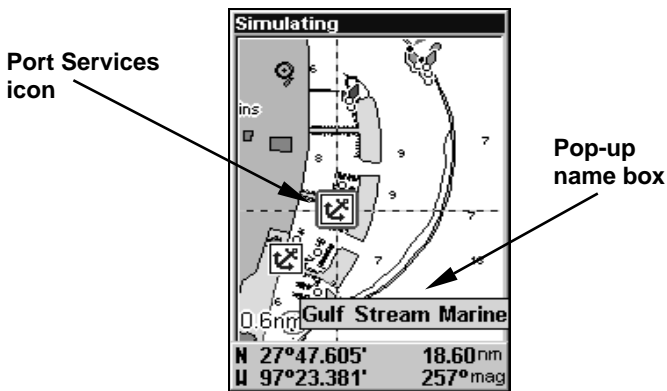
NauticPath chart showing Port Services icon selected by cursor. When first highlighted, the Pop-Up name box appears.

Tidal Current Information

NauticPath charts contain Tidal Current information, represented at large zoom ranges by a box icon with the letter "C." These icons will appear when you are zoomed in to a 6-mile range. The icon stands for a Tidal Current Station location. An example is displayed on the right.


When you zoom in to a sufficiently small zoom range (0.8 nautical mile), the icon becomes an animated arrow showing tidal current velocity and direction *for the selected tidal station* at the present time.

At larger zoom ranges, you can select the boxed "C" icon and it becomes an animated arrow with a pop-up name box (the name box disappears after a few seconds). Examples are displayed in the following figures.
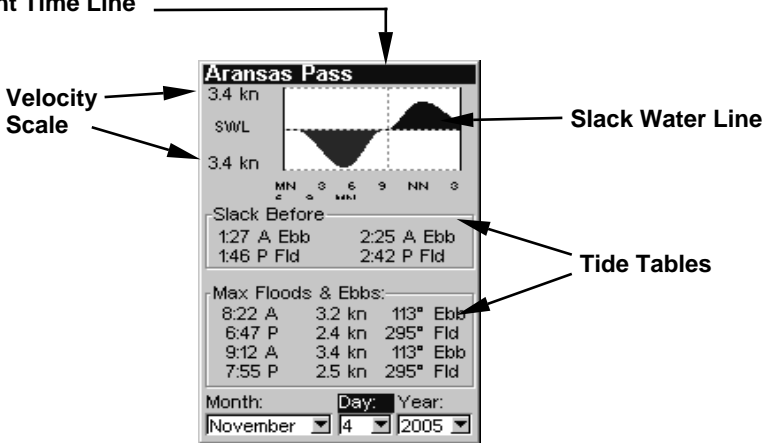
To view Tidal Current information:

1. Use the arrow keys to move the cursor over a Tidal Current Station icon. When it is selected, a pop-up name box appears.

2. Press **WPT** to display the Tidal Current Information screen.
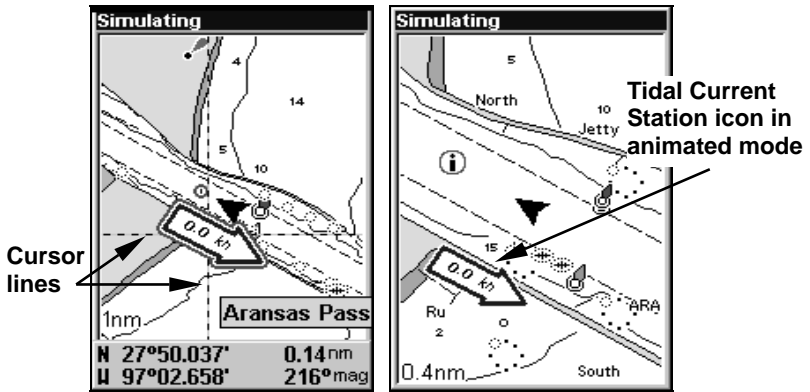
NauticPath chart showing Tidal Current Station icon selected by cursor (left). Icon animates automatically at .08-mile zoom range (right).

Current Information screen.

The Tidal Current Information screen displays daily tidal current data for this station on this date at the present time. The graph at the top of the screen is an approximate view of the flood and ebb pattern for the day, from midnight (MN), to noon (NN) to midnight (MN). The velocity scale at the top left side of the graph changes dynamically based upon the maximum velocity of the current for that day.

Slack water, the period of little or no current, is represented by the Slack Water Line (SWL). The flood appears above the SWL and the ebb appears below the SWL. You can look up tidal current data for other dates by changing the month, day and year selection boxes.

To select another date:

1. Use ← → to highlight month, day or year, then press **ENT**.

2. Use ↑ ↓ to select the desired month, day or year and press **ENT**.

To clear the information screen, press **EXIT**.

Tide Information

NauticPath charts contain Tidal Information, represented at large zoom ranges by a box icon with the letter "T." These icons will appear when you are zoomed in to a 6-mile range. The icon stands for a Tidal Station location. An example is displayed at right.
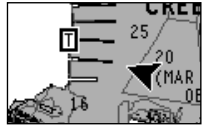
When you zoom in to a sufficiently small zoom range (0.8 nautical mile), the icon becomes an animated gauge showing a rising or falling tidal height *for the selected station* at the present time. At larger zoom ranges, you can select the boxed "T" icon and it becomes an animated gauge with a pop-up name box. The name box disappears seconds.
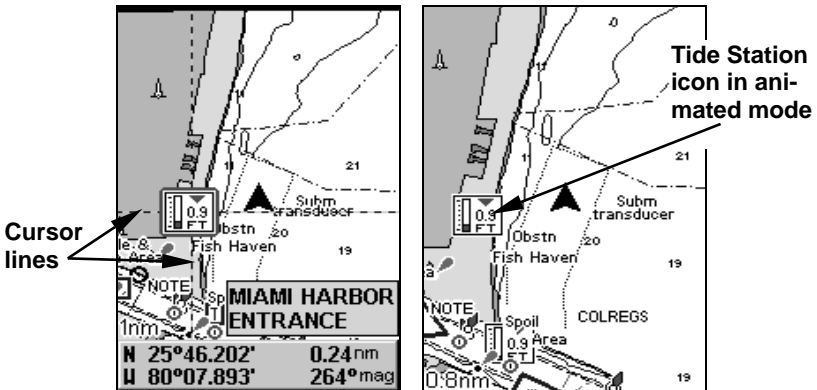
NauticPath chart showing Tide Station icon selected by cursor (left). Icon animates automatically without selection at the 0.8-mile zoom range (right). In the example above, the tide is at 0.9 feet and falling, as shown by the down arrow at the top of the icon.

To view tide information:

1. Use the arrow keys to move the cursor over a tide station icon. When it is selected, a pop-up name box appears.

2. Press **WPT** to display the Tide Information screen.
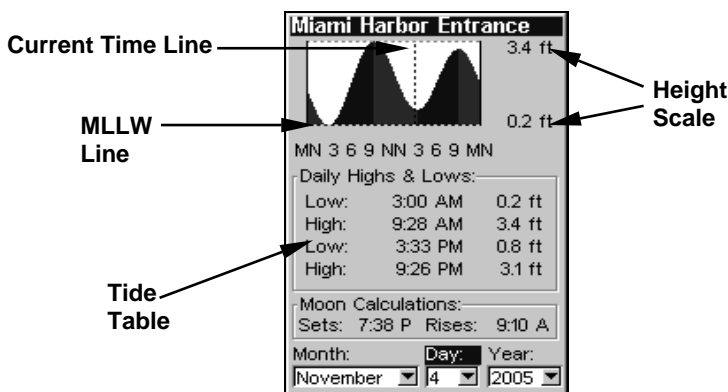
Tide Information screen.

The Tide Information screen displays daily tidal data for this station on this date at the present time. The graph at the top of the screen is an approximate view of the tidal range pattern for the day, from midnight (MN) to noon (NN) to midnight (MN). The dotted line across the graph is the Mean Lower Low Water line (MLLW).

The height scale on the top right side of the graph changes, based upon the maximum *range* of the tide for that day. The MLLW line also adjusts its position as the height scale changes.

You can look up tidal data for other dates by changing the month, day and year selection boxes. To select another date:

1. Use ← → to highlight month, day or year, then press **ENT**.

2. Use ↑ ↓ to select the desired month, day or year and press **ENT**.

To clear the information screen, press **EXIT**.

Navionics® Charts

Your unit can also display Navionics electronic charts on MMCs. Like NauticPath, Navionics charts contain tide and port service information.

NOTE:

The primary operational difference between a NauticPath chart and a Navionics chart is the way the chart data is set up for display. NauticPath charts are ready for display as soon as they are inserted into the unit. Navionics charts must be inserted into the unit, then selected as a Map Choice option in the Map Data menu.

To display a Navionics chart:

1. Install the Navionics MMC in the memory card compartment and turn on the unit. (For full card install instructions, see Sec. 2.)

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2. From the Map Page, press **MENU**|↓ to **M**ᴀᴘ **D**ᴀᴛᴀ|**ENT**|↓ to **M**ᴀᴘ **C**ʜᴏɪᴄᴇ|**ENT**. Select the *Map Name*, then press **ENT**|**EXIT**|**EXIT**.

WARNING:

You should never format the MMC containing your Navionics chart. Formatting the MMC will permanently erase the chart from the card.

Overlay Data

On any Page display except Satellite Status, you can float or overlay additional GPS or navigation data on the screen with the Overlay Data command. For example, if you left your watch at home, you could display the local time on top of the map. Or if you wanted to see details about your route and trip, you could show your bearing, course, average speed and trip distance.
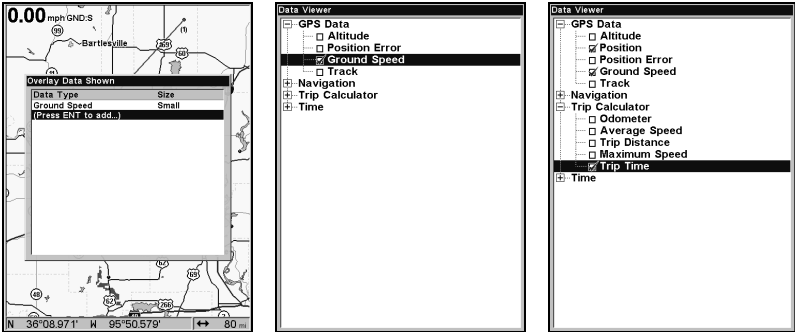
Overlay Data menu with Press Ent to add highlighted (left). Data viewer with GPS Data category opened (center). Ground Speed is turned on (checked). Both GPS Data and Trip Calculator categories are opened (right) with Ground Speed, Position and Trip Time turned on.

To overlay information on your screen:

1. While on the Map Page, press **MENU**|↓ to **O**ᴠᴇʀʟᴀʏ **D**ᴀᴛᴀ|**ENT**.

2. Select **ENT ᴛᴏ ᴀᴅᴅ** and press **ENT**. The Data Viewer menu will appear. It has four categories: GPS Data, Navigation, Trip Calculator and Time. If the desired category is flanked by a "+", a list of data options will appear when you highlight the category and press **ENT**. After opening a category it will have a "–" next to it. To close the category, highlight it and press **ENT**.

3. Open the desired category and use ↑ ↓ to select the desired overlay data option and press **ENT** to turn it on (check) or turn it off (uncheck). Use ↑ ↓ to select another overlay data option for display or press **EXIT**|**EXIT** to return to normal operation..

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Every Page display has a maximum number of items you can show using the Overlay Data command.

To remove overlaid data:

1. While on the Page that shows the data you want to remove, press **MENU|↓** to **OVERLAY DATA|ENT**.

2. You will see a list of the overlay data currently displayed. Select the item you want to remove from the display and press **ENT|ENT** to remove the data. To remove another item, repeat Step 2.

3. When you have finished removing all the items you want from the screen, press **EXIT** to return to the main page display.
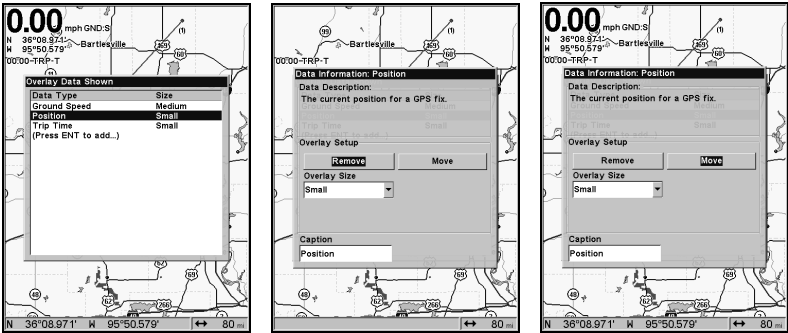
Overlay Data Shown menu with position data option selected (left). Data information window with Remove highlighted (center). Move is highlighted on Data information window (right).

To move overlaid data:

You may find it useful to move data floating on your display.

1. From one of the Map Pages, press **MENU|↓** to **OVERLAY DATA|ENT**.

2. You will see a list of the overlay data currently displayed. Select the item you want to move and press **ENT|→** to **MOVE|ENT**.

3. The data begins to flash on your screen. Use ↓ ↑, ← → to move the data to a new location on the display.

4. When have the data in the desired position, press **EXIT|EXIT**.

NOTE:

> The Customize and Overlay Data commands use the same information categories. The difference between the two commands is Customize changes only the data in digital data boxes, while Overlay Data changes information floating on the screen.

To change displayed data font size:

1. From the Map page, press **MENU**|↓ to **OVERLAY DATA**|**ENT**.

2. Press ↓ ↑ to select a data type to resize, then press ← → scroll through five data size options: Off, Small, Medium, Large and Enormous. Press **EXIT**. The selected data type will be displayed in the new size.
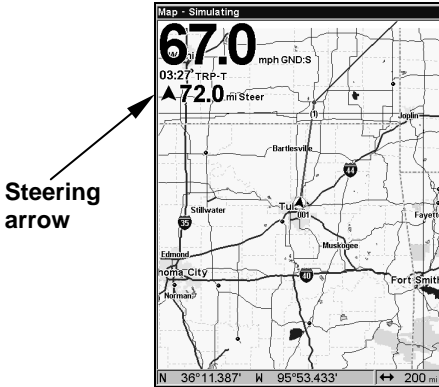
Steering arrow

**Map Page showing Ground Speed, Trip Time and the Steering Arrow.**

NOTE:
> Some data types can be displayed in only one font size. If that is the case, the Data Size box will not be displayed for that data type.

Pop-up Help

Help is available for most all menu items on this unit. By highlighting a menu item and leaving it highlighted for a few seconds, a pop-up message appears that describes the function of the menu item. This feature is on by default.

To turn on Popup Help press **MENU**|**MENU**|↓ to **SYSTEM SETUP**|**ENT**|↓ to **POPUP HELP**. Press **ENT** to turn it on (check) or turn it off (uncheck). Press **EXIT** repeatedly to get back to the main page display.
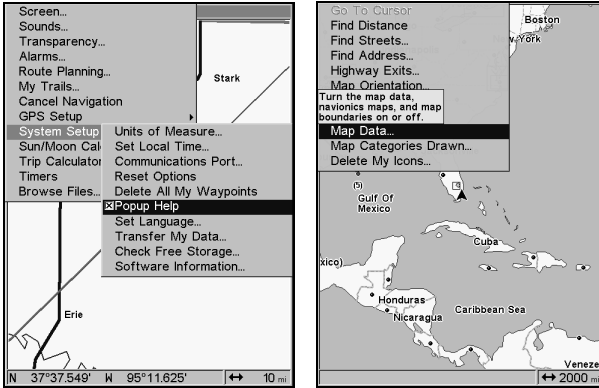
System Setup Menu (left) with Pop-up Help highlighted.
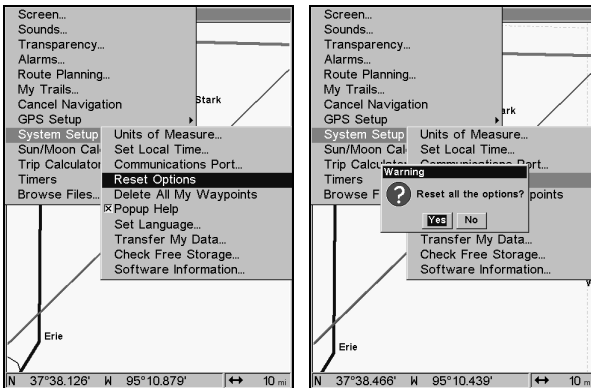**Pop-up Help message for the Map Data (right).**

Reset Options

To reset unit to factory defaults:

1. Press **MENU**|**MENU**|↓ to **SYSTEM SETUP**|**ENT**|↓ to **RESET OPTIONS**|**ENT**|←
to **YES**|**ENT**.

NOTE:

Reset Options does *not* erase any waypoints, routes, icons or plot trails.

System Menu with Reset Options selected (left).
Reset Options confirmation message (right).

Require WAAS

You can choose to have WAAS signals automatically factored into every position reading. The default setting, Off, uses WAAS automatically, but does not require it to yield a position.

To Require WAAS:

1. Press **MENU|MENU|↓** to **GPS SETUP|ENT|↓** to **REQUIRE WAAS|ENT**.

2. To return to the main page display, press **EXIT|EXIT**.

3. Repeat Step 1 to turn off WAAS requirement.
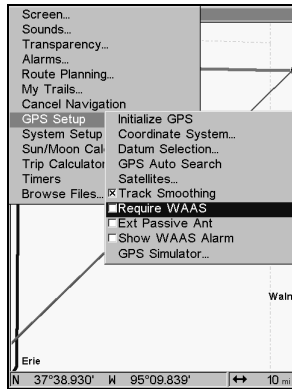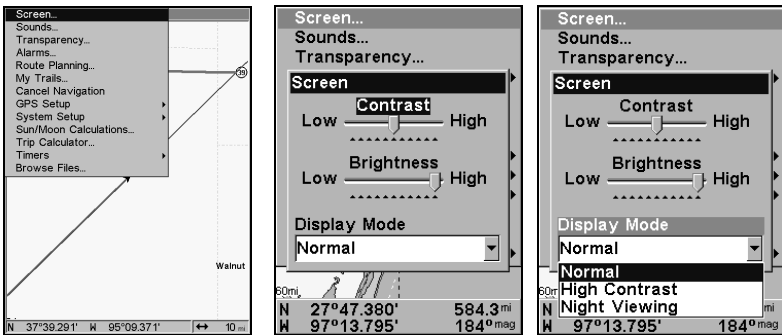

Require WAAS command on GPS Setup Menu.

Screen Contrast and Brightness

To access the Screen menu, press **MENU|MENU|ENT**.

The **CONTRAST** slider bar is already selected. Press ← → to adjust the contrast.

To adjust the display's brightness:
Press ↓ to **BRIGHTNESS**. Use ← → to adjust the brightness of the display.

Screen Command (left). Screen menu with Contrast selected (center). Normal highlighted on Display Mode menu (right).

To adjust the screen's display mode:

Press ↓ to **DISPLAY MODE|ENT**. Press ↑↓ to select *mode*|**EXIT**.

Set Language

This unit's menus are available in 10 languages: English, French, German, Spanish, Italian, Danish, Swedish, Russian, Dutch and Finnish.

To select a different language:

1. Press **MENU|MENU|↓** to **SYSTEM SETUP|ENT**.

2. Press **↓** to **SET LANGUAGE|ENT**.

3. Use **↓ ↑** to select a different language and press **ENT**. Menus now appear in the language you selected.

Set Local Time

To access the Set Local Time menu, you must first acquire your position, then press **MENU|MENU|↓** to **SYSTEM SETUP|ENT|↓** to **SET LOCAL TIME|ENT**.

To set Local Time: Press **ENT**. Use **↑ ↓** to change the first character, then press **→** to move the cursor to the next character. Repeat until the time is correct and press **ENT**.

To set the Month: Press **↓** to **MONTH|ENT**. Use **↑ ↓** to select the month and press **ENT**.

To set the Day: Press **↓ →** to **DAY|ENT**. Press **↑ ↓** to select the day and press **ENT**.

To set the Year: Press **↓ →** to **YEAR|ENT**. Press **↑ ↓** to select the year and press **ENT**.

To set Time Format: Press **↓** to **TIME FORMAT**, highlight an option and press **ENT** to turn it on or off.

To set Date Format: Press **↓ →** to **DATE FORMAT**, highlight an option and press **ENT** to turn it on or off.

The last field in this menu is **CONFIG DST**. This feature sets up the unit to automatically adjust with the time change resulting from Daylight Saving Time. You may select which set of rules matches DST in your region or just accept the default. You should only have to configure DST once.

Once you have each field set the way you want, press **EXIT** repeatedly to get back to the main page display.

Show WAAS Alarm

When the signal is available, your unit will automatically use WAAS to boost the accuracy of a position fix. When the WAAS signal is lost or acquired, a message appears. Since the U.S. government is still developing the WAAS system, it is not unusual for a GPS/WAAS receiver to

frequently lose and reacquire its lock on a WAAS satellite. That can result in the alarm repeatedly going off. If you want, turn off the WAAS Acquired/Lost alarm without affecting how the unit uses WAAS.

To turn off WAAS alarm:

1. Press **MENU|MENU|↓** to **GPS SETUP|ENT|↓** to **SHOW WAAS ALARM**.

2. Press **ENT** to turn it on (check) or turn it off (uncheck). After the option is set, press **EXIT|EXIT** to return to the page display.

3. To turn the alarm on again, repeat Steps 1 and 2.

Software Version Information

From time to time, Eagle updates the operating system software in some of its products. These software upgrades usually are offered to customers as free downloads from our web site, www.eaglegps.com. The upgrades make the unit perform better or introduce new features and functions. Use the software information command to see what software version is running in your unit.
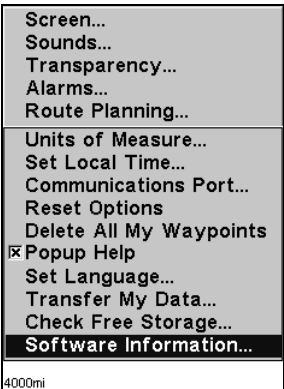
Main Menu with Software Information selected (left).
The Software Information screen (right).

Press **MENU|MENU|↓** to **SYSTEM SETUP|ENT|↓** to **SOFTWARE INFORMATION|ENT**. To return to the page display, press **EXIT** repeatedly.

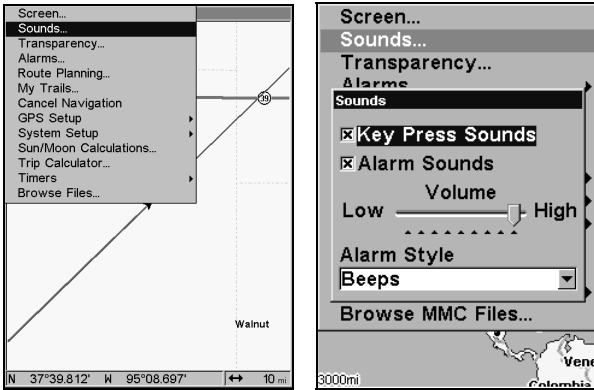## Sounds Menu

To adjust Sounds and Alarm Styles:

Press **MENU|MENU|↓** to **SOUNDS|ENT**.

To set Key Press Sounds: Press **ENT** to turn them on (check) or turn them off (uncheck).

To set Alarm Sounds: Press **↓** to **ALARM SOUNDS.** With the option highlighted, press **ENT** to turn them on (check) or turn them off (uncheck).

**To set Volume:** Press ↓ to **VOLUME**. Use ← → to adjust the volume.

To set Alarm Style: Press ↓ to **ALARM STYLE | ENT**. Press ↑ ↓ to change the style and press **ENT**. After the option is set, press **EXIT | EXIT** to return to the main page display.

Sounds highlighted on main menu (left). Sounds menu (right).

Track Smoothing

This is a factory setting on the GPS Setup menu that *should always be on*. When stopped or traveling at slow speeds, like walking or trolling, Track Smoothing prevents trails from wandering. It benefits the steering arrow, compass rose and map in track-up mode in the same manner.
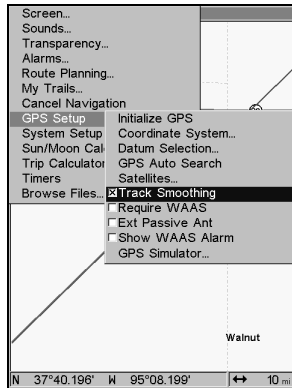
Track Smoothing option, turned on.

Trail Options

There are several options you can use with trails. Some affect all trails, others can be applied to a particular trail. You can change the way trails are updated, display or hide trails, create a new trail, delete a trail, etc.
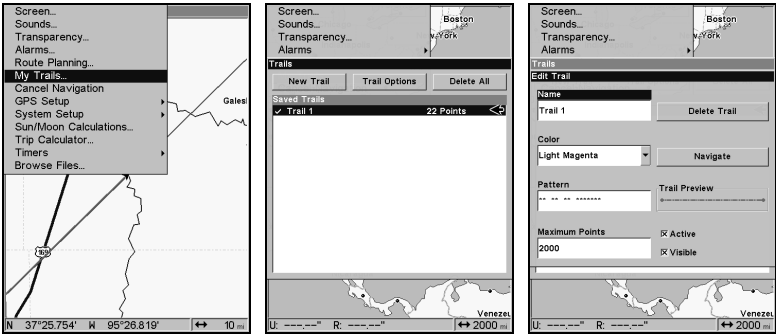
Main Menu (left). Trails Menu (center). Trail Options (right).

General Trail Options

To access the Trails Menu press **MENU|MENU|↓** to **MY TRAILS|ENT**.

Delete All Trails

From the Trails Menu, press → to **DELETE ALL|ENT|←** to **YES|ENT**.

Update Trail Option

This menu lets you change the way the trail updates occur.

From the Trails Menu, press → to **TRAIL OPTIONS|ENT**. With **UPDATE ACTIVE TRAIL** highlighted, press **ENT** to turn it on (check) or turn it off (uncheck).

WARNING:

If you *uncheck* the Update Trail option, automatic trail creation and recording will be turned *off*. You must turn it on to record trails. The default setting is on.

Update Trail Criteria

The options are automatic, time or distance. When it is in the default mode, the unit does not update the plot trail while you are traveling in a straight line. Once you deviate from a straight line, the unit drops a plot point onto the trail. This conserves plot trail points. If a plot trail uses all the available points allotted to it, the beginning points are taken away and placed at the end of the trail.
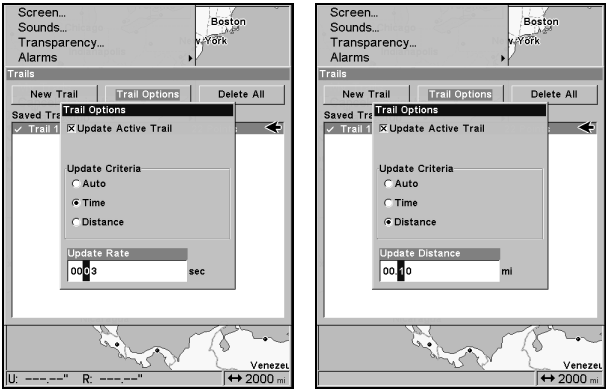
From the Trails Menu, press → to **OPTIONS|ENT**. Select one of the three Update Criteria options — Auto, Time or Distance — and press **ENT**.

Trail Update Rate

A trail updated by time has a range of 1 to 9999 seconds. The default is 3 seconds. The range for updating a trail by distance is 0.01 mile/nm/km to 9.99 mile/nm/km. The default is 0.10 mi.

When time or distance are chosen as the update criteria for a trail, a dialog box will appear, allowing you to input the desired update rate or distance. Select the dialog box and press **ENT**. Use ↑ ↓ to change the

first character, then press → to the next character and repeat until the entry is correct. Press **EXIT** to return to the Trail Options Menu.

Update Rate setting (left) and Update Distance setting (right).
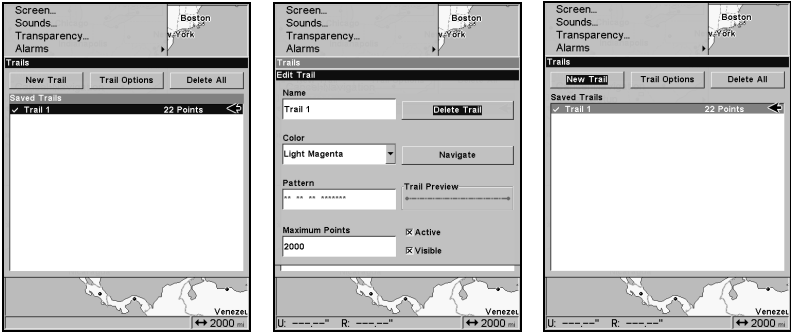
Trail Name highlighted (left). Edit Trail menu (center). Trails menu with New Trail highlighted (right).

Specific Trail Options
Delete Trail
From the Trails Menu, press ↓ to *trail name*|**ENT**. The Edit Trail menu appears. Press → to **DELETE TRAIL**|**ENT**|← to **YES**|**ENT**.

New Trail
To manually start a new trail, in the Trails Menu, highlight **NEW TRAIL** is highlighted and press **ENT**.

Trail Visibility and Other Trail Options
The name, maximum number of points in the trail, activity and visibility are all changed on the Edit Trail menu screen. The Active setting determines whether the unit is recording new points for a trail. Related trail functions are discussed in further detail under the Trails topic in Sec. 7, *Advanced GPS Operations*.
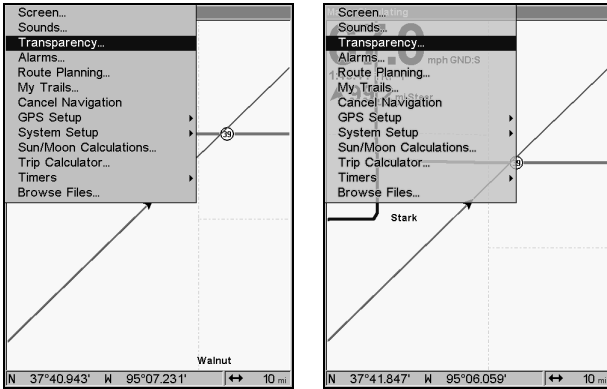
Transparency set to 0 percent (left) and 50 percent (right).

Transparency

Use the transparency menu to adjust the transparency of menu windows. A high transparency setting allows you to continue monitoring the screen's display while working with a menu. A low transparency usually will make menu text easier to read, at the cost of watching your display.

To adjust Transparency level:
Press **MENU|MENU|↓** to **TRANSPARENCY|ENT**. The **TRANSPARENCY** slider bar appears. Press **↑↓** to adjust the level of transparency. Press **EXIT** when it is set at the desired level.
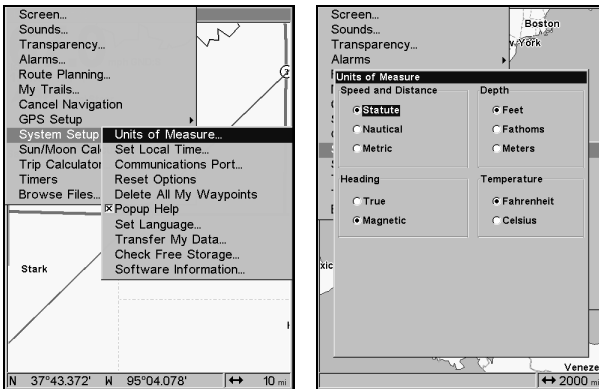
Units of Measure selected on System Setup menu (left).
Units of Measure Menu (right).

Units of Measure

This menu sets the speed, distance, depth, temperature and heading units.

To change the units:

Press **MENU**|**MENU**|↓ to Sʏsᴛᴇᴍ Sᴇᴛᴜᴘ|**ENT**|**ENT**.

To set Units of Measure: Select a category you would like to change. Highlight the desired unit of measure option under the category and press **ENT**. Repeat those steps for each category that has a unit of measure option you would like to change. After all options are set, press **EXIT** repeatedly to return to the main page display.
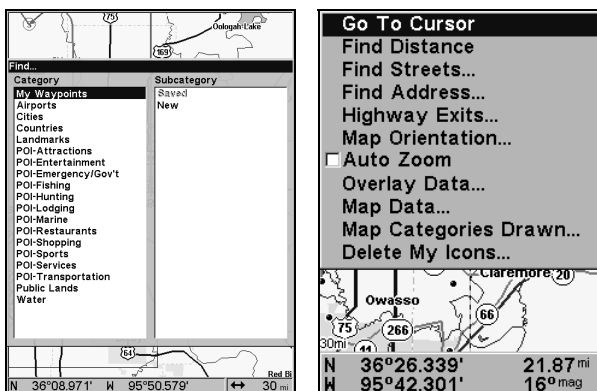
Notes

Section 6: Searching

NOTE:

The background map loaded in your unit lets you search for U.S. Interstate Highway exits and exit services, as well as some land features, including cities and lakes. For a full set of searchable land features, including landmarks, streets, addresses and Points of Interest, you must load your own high-detail custom map produced with our MapCreate 6 software. For a complete description of the detail is found in the background map and custom MapCreate maps, see page 30. Remember, our pre-made FreedomMaps contain all the same detail found in custom-made MapCreate maps.

This unit's search functions all begin with either the Find Waypoint menu or the Map Page menu. Press **WPT** and the Find Waypoint menu appears for waypoints and Points of Interest (POI). From the Map Page, press **MENU** and the Map Page menu appears for streets, addresses and highway exits.

Find Waypoint menu (left). Map Page menu (right).

IMPORTANT NOTES:

Our search commands let you look up items by name or search for the item nearest to you. When you search, the unit looks for items in the vicinity of your current position. If you are using the unit indoors, in simulator mode or otherwise have not locked on to satellites, the unit looks near the last known position.

To search somewhere else, use the arrow keys to center the cursor crosshairs on the desired location. When the cursor is active, the unit always begins searching at the cursor location.

In search results, the distance and bearing to the selected item will be calculated from the current position. In the case of a cursor search, the search results show distance and bearing from the cursor.

Find Addresses

1. From the Map Page, press **MENU**|↓ to **FIND ADDRESS**|**ENT**.

2. Press **ENT** to search in the Address field.

3. To enter an address, press ↑↓ to change the first number, then press → to move the cursor to the next number and repeat until the address has been entered correctly, then press **ENT**.
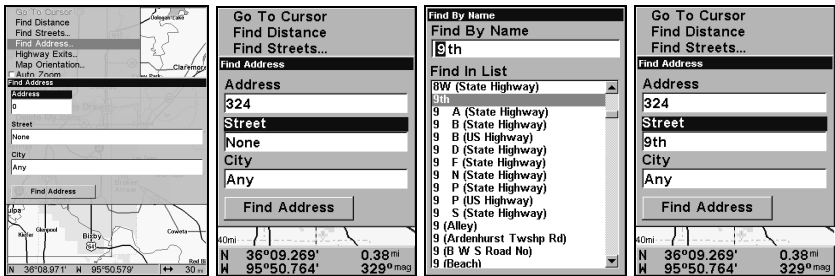

Figure 1: Find Address Menu (from left to right). Figure 2: Address entry is complete. Figure 3: The Find Street menu with Find By Name field active. Figure 4: Street name entry complete.

4. To enter a street name, press ↓ to **STREET**|**ENT**. There are two options: **A.** You can spell out the name in the top selection box. Press ↑↓ to change the first letter, then press → to move the cursor to the next letter and repeat until the name is correct, then press **ENT**|**ENT**. **B.** Jump down to the lower selection list by pressing **ENT**, then use ↓↑ to select a street name from the list, then press **ENT**. The street name you selected is now in the street field.

5. To enter a city name, press ↓ to **CITY**|**ENT**. You will be asked if you want to find addresses within a particular city. This option is designed so you can limit an address search to a single city if necessary.

If you select yes, there are two options: **A.** You can spell out the city name in the top selection box. Use ↑↓ to change the first letter, then press → to move the cursor to the next letter and repeat until the name is correct, then press **ENT**|**ENT**. **B.** Jump down to the lower selection list by pressing **ENT**, then press ↓↑ to select a city name from the list, then press **ENT**. The city name you selected is now in the city field.

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NOTE:

We recommend you do *not* enter a city name unless the list you are given is too large when searching without it. This unit can actually search quicker without a city and you save time by not entering a city name.
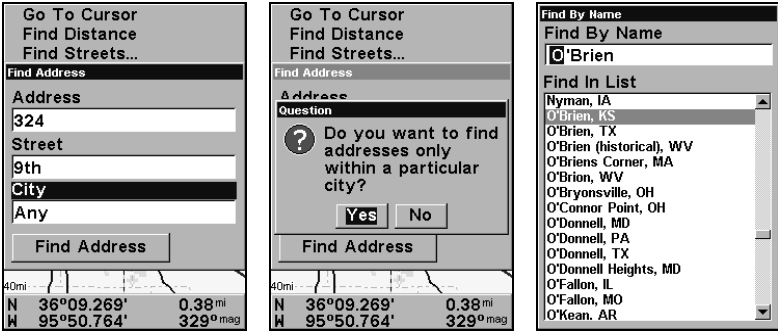
Find City field (left). Search in particular city only option (center). Find City by name (right).

6. When the necessary search fields are filled in, press ↓ to **FIND ADDRESS|ENT**. Your unit asks you to wait while it searches for the address. If an address is not in the database, a message appears saying the address could not be found.

7. The unit will display a list of addresses. If the address you are looking for is highlighted at the top of the list, press **ENT**. If not, use ↓ ↑ to select the correct address from the list, then press **ENT**. The Map Page will appear with the location selected by the cursor. In the following example, we are looking for 12303 East 11th *Street* in Tulsa, not 11th *Court*, so we scrolled down the list to select the correct address.
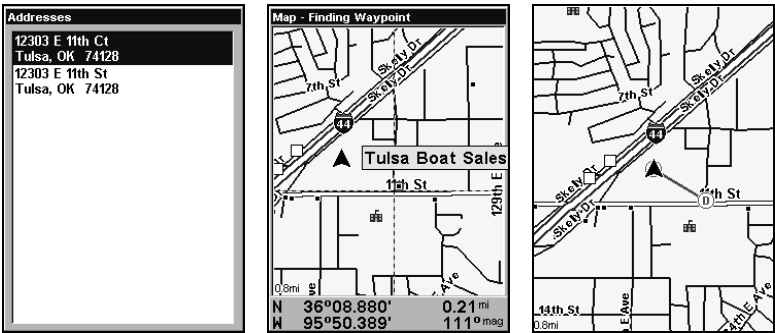

Address search result list (left). Map Page showing location of the address on the map, highlighted by cursor (center). After the address is located (right), you can navigate to it ("D" symbol for destination).

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8. To navigate to the address, press **MENU** select **Go To** and press **ENT**. The unit will begin showing navigation information to the address. If you are only looking up an address, highlight **FIND** and press **ENT**. The map page will appear with the cursor crosshairs centered on the address.

Tip:

If the address happens to be an item in the Point of Interest database, you can look up the item's phone number in the Waypoint Information list. With the address selected by the cursor on the map, press **WPT**. The POI's Waypoint Information window appears, with the Go To Waypoint command highlighted. If you want to go ahead and navigate to the POI address, just press **ENT|EXIT**.
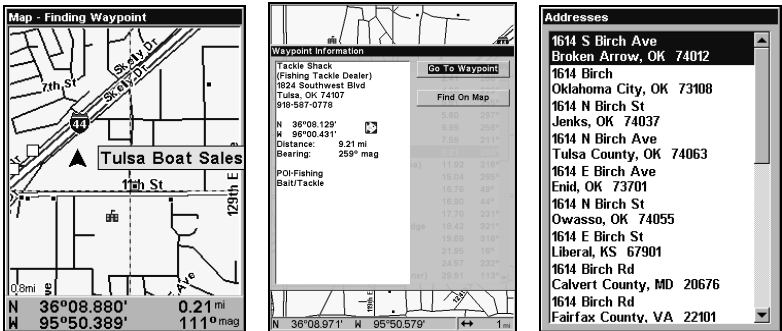
Map Page showing location of address on the map, highlighted by cursor (left). Address is a business in the POI database, so you can display the POI information window (center). This address (right) is not in the POI database, so the Waypoint key will not display information for it.
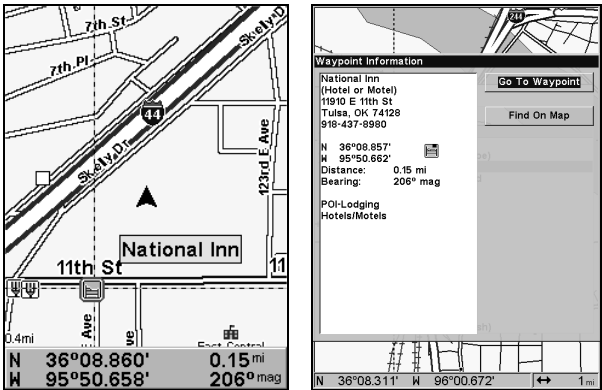
A POI selected by the cursor (left). POI information screen (right).

Find Any Item Selected by Map Cursor

On the Map Page with a POI or map feature selected by the cursor press **WPT.** To return to the main page display, press **EXIT**.

NOTE:
> Since the Go To waypoint command is highlighted, you can navigate to the selected POI by pressing **ENT|EXIT** while in the POI Waypoint Information screen.

Find Interstate Highway Exits

1. From the Map Page, press **MENU|↓** to **HIGHWAY EXITS|ENT**, which will launch the Find Exit menu.
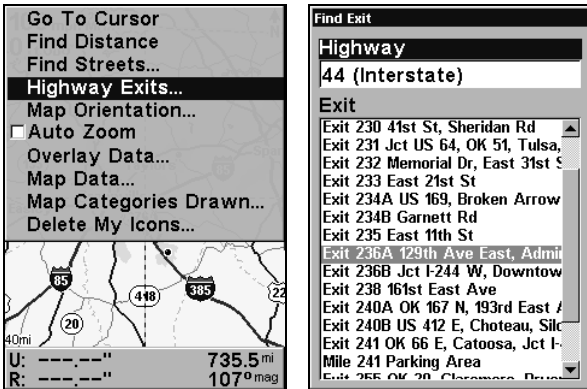
Find Highway Exits command (left) and Find Exit menu (right).

2. First, select a highway name by pressing **ENT**, which calls up the Find By Name menu. There are two highway search options: **A.** You can **spell out** the highway name in the top selection box. Press ↑ ↓ to change the first letter, then press → to move the cursor to the next letter and repeat until the name is correct, then press **ENT|ENT**. **B.** Jump down to the lower selection list by pressing **ENT**, then press ↓ ↑ to select a highway from the list, then press **ENT**.
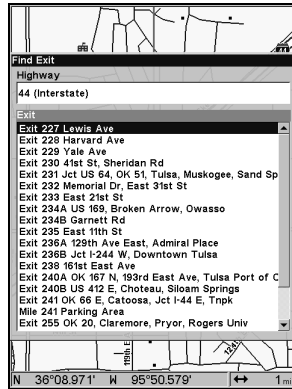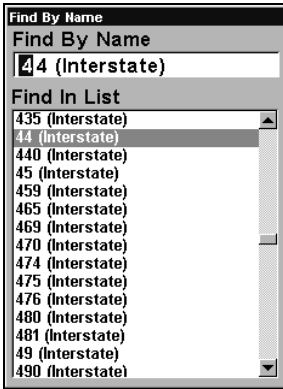
Find By Name menu (left). Find Exit menu with exit selected (right).

3. Once you have selected a highway name you can select an exit. Press ↓ to switch to the Exit List, then press ↓ ↑ until you highlight the exit, then press **ENT.**
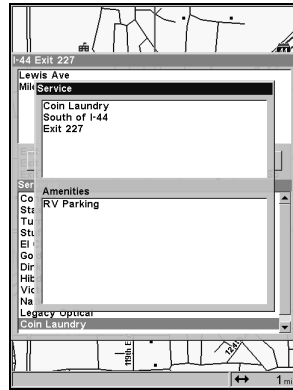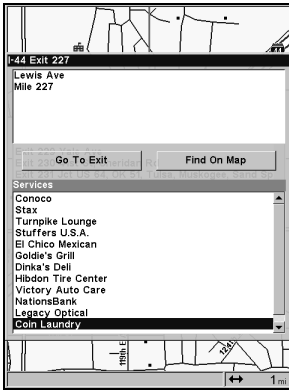
4. In the Exit Information screen you have two choices. **A.** Press **ENT|ENT** to navigate or go to the exit. **B.** Press **ENT|→|ENT** to find the exit on the map.
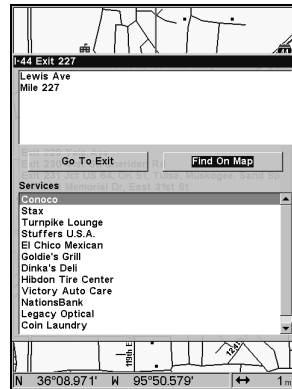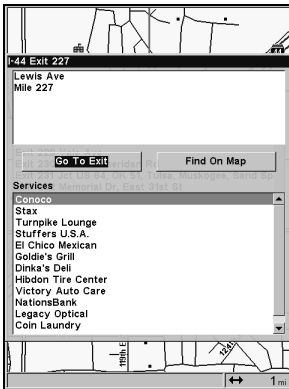
Go To Exit option (left). Find On Map option (right).

Tip:

You can also look up some additional information on the Exit Services located near this exit. Press ↓ to **SERVICES|**↓ ↑ to select *Service Name|***ENT.**

**Exit Information screen (left). General location
and amenities information (right).**

Find Map Places or Points of Interest (POI)

1. Press **WPT**, use ↓ ↑ to select a map place or POI category, then press
ENT. (To narrow your search, press → to select a subcategory before
pressing **ENT**.) You will be given two options: search by Name or by
Nearest.
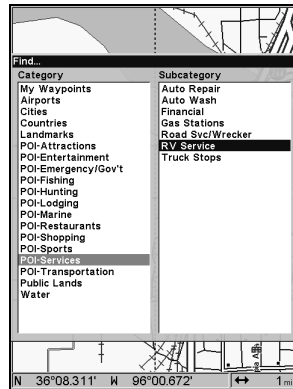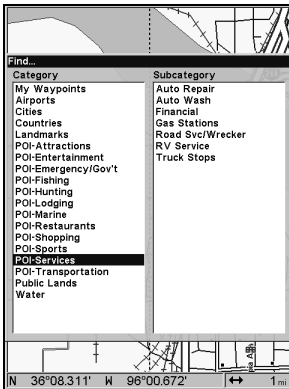
**Find Waypoint menu with Services POI category selected (left)
and RV Service subcategory selected (right).**

2. **Search by nearest POI.** Highlight **NEAREST|ENT**. A list of the near-
est POI's will appear. Press ↓ ↑ to the selected POI and press **ENT** to
launch the POI's Waypoint Information screen.
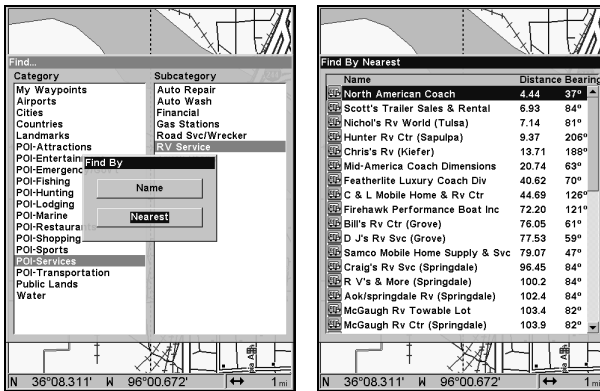
Find by nearest option (left) with resulting POI list (right).

3. **Search by name of POI.** Highlight **NAME** and press **ENT**. There are two options: **A.** You can spell out the POI name in the top selection box. Press ↑↓ to change the first letter, then press → to move the cursor to the next letter and repeat until the name is correct, then press **ENT|ENT**. **B.** Jump down to the lower selection list by pressing **ENT**, then press ↓↑ to select a POI from the list, then press **ENT** to call up the POI's Waypoint Information screen.
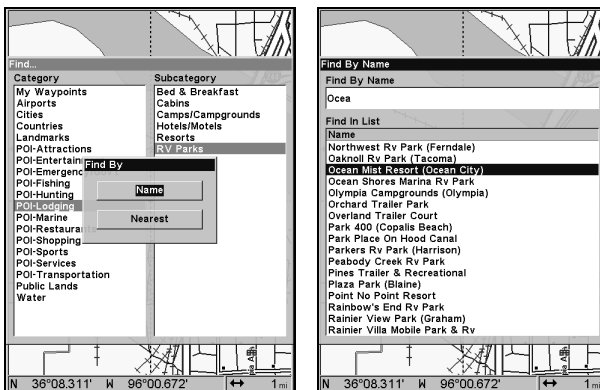
Find by Name option (left). Find by Name menu (right).

4. When the POI's Waypoint Information screen is displayed, you can choose to Go To the POI waypoint by pressing **ENT** or find it on the map by pressing ↓|**ENT**.
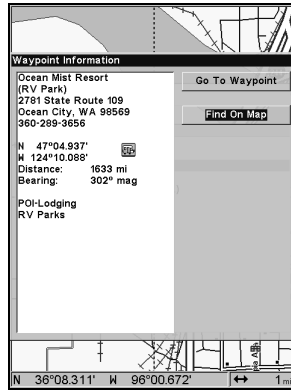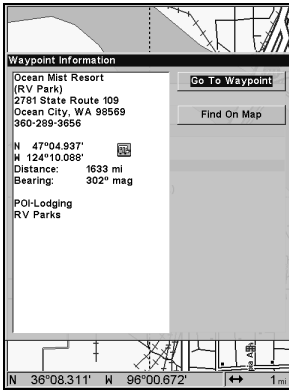
Go To POI option (left). Find on Map POI option (right).

Find Streets or Intersections

Find a Street

1. From the Map Page, press **MENU|↓** to **FIND STREETS|ENT** and the Find Streets Menu appears.
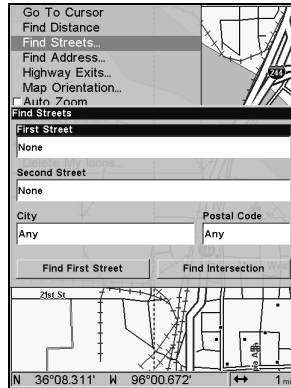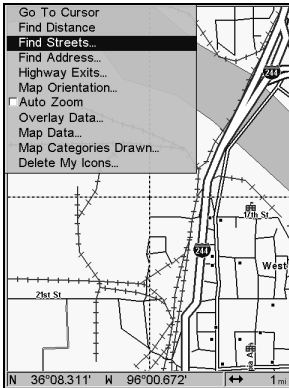
Find Streets command (left). Find Streets menu (right).

2. You must enter a street name in the First Street dialog box. Press **ENT** to display the Find By Name menu. There are two options: **A.** You can spell out the street in the top selection box. Press ↑↓ to change the first letter, then press → to move the cursor to the next letter and repeat until the name is correct, then press **ENT|ENT**. **B.** Or you can jump down to the lower box and pick a street from the **selection list**. Press **ENT**, then press ↓↑ to select a street from the list and press **ENT**.
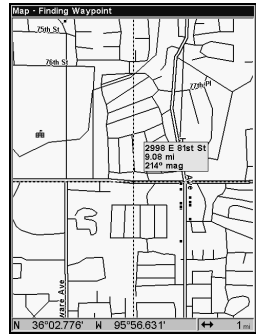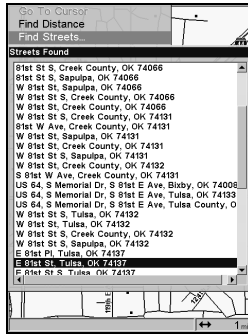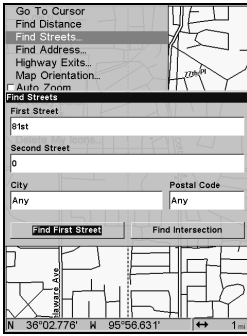
**The Find Streets menu with the Find First Street command high-
lighted (left). Streets Found list (center). Map Page showing results of
a street search (right). The cursor points to the located street.**

3. The Find Streets menu reappears with the street you are searching for
in the First Street box. To search for that street, press ↓ to **FIND FIRST
STREET|ENT**. When the Streets Found list appears, press ↑↓ to select the
street you are searching for and press **ENT**.

4. The Map Page appears, with the cursor pointing to the found street.

If you want to navigate to the found street at the cursor location, just
press **MENU|ENT|EXIT**.

Find an Intersection
You must enter one street in the First Street dialog box and enter the
next street in the Second Street dialog box.

1. From the Map Page, press **MENU|↓** to **FIND STREETS|ENT** and the Find
Streets Menu appears.

2. You must fill in a street name in the First Street dialog box. Press **ENT**
to display the Find By Name menu. There are two options: **A.** You can
spell out the street in the top selection box. Press ↑↓ to change the first
letter, then press → to move the cursor to the next letter and repeat until
the name is correct and press **ENT|ENT**. **B.** Or you can jump down to the
lower box and pick a street from the selection list. Press **ENT**, then use
↓↑ to select a street from the list and press **ENT**.

3. The Find Streets menu reappears with the street you are searching
for in the First Street box.

4. Now fill in the second street. Press ↓ to **SECOND STREET|ENT** and the
Find By Name menu appears again. Just like before, there are two op-
tions: **A.** You can spell out the second street in the top selection box.
Press ↑↓ to change the first letter, then press → to move the cursor to
the next letter and repeat until the name is correct, then press
ENT|ENT.

B. Or you can jump down to the lower box and pick the second street from the selection list. Press **ENT**, then press ↓ ↑ to select a street from the list and press **ENT**.

5. The Find Streets menu reappears with the first and second street dialog boxes filled in. You could now use similar techniques to select a city or Zip code, but your search will probably be faster if you leave those boxes blank. You can specify a city and/or Zip code later on to narrow the search, if the resulting list is too long.
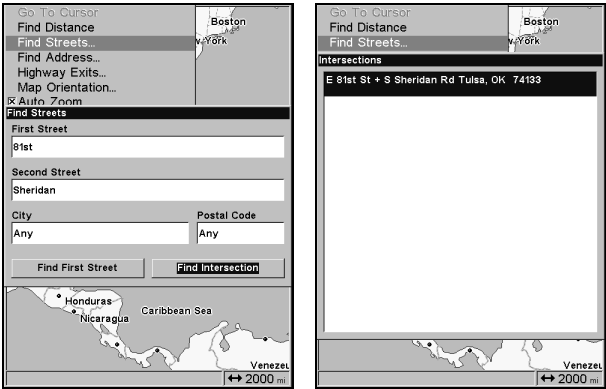
Find Intersection command highlighted (left).
Intersections Found list (right).

6. To search for the intersection of the two streets, press ↓ to **FIND INTERSECTION**|**ENT**. When the Intersections Found list appears, press ↑ ↓ to select the intersection you are searching for and press **ENT**.

7. The Map Page appears, with the cursor crosshairs centered on the intersection. If you want to navigate to the found intersection, just press **MENU**|**ENT**|**EXIT**.
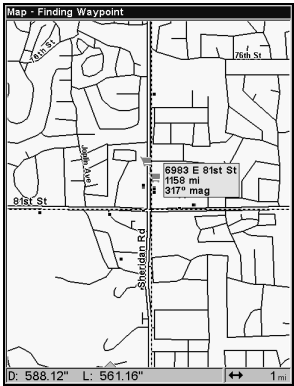
Map Page showing results of an intersection search.

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Find Waypoints

1. Press **WPT**|↑ to **MY WAYPOINTS**|**ENT**.

2. If searching for the nearest waypoint, select **NEAREST** and press **ENT**. If searching by name, highlight **NAME** and press **ENT**. (To search by name, jump to step 5.)
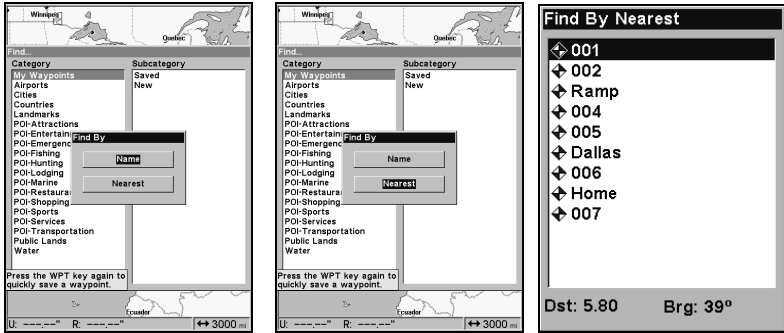
**Find By Nearest command (left). Find by Name command (center).
List of the nearest waypoints (right).**

3**.** When you are searching for the nearest waypoint, a list of waypoints appears with the closest location highlighted at the top of the list and the one furthest from you at the bottom of the list.

4. To see location information on the closest waypoint, press **ENT** and the Waypoint Information screen appears.

    A. *To navigate* to the waypoint, press **ENT**. The Go To Waypoint command is already highlighted. The unit will show navigation information to the waypoint.

    B. *To find* the waypoint, press ↓ to **FIND ON MAP**|**ENT**. The Map Page appears with the cursor highlighting the found waypoint.

To clear these menus and return to the main page display, press **EXIT** repeatedly.

5. If you are looking by name, there are two options: **A.** You can spell out the name in the top selection box. Press ↑↓ to change the first letter, then press → to move the cursor to the next letter and repeat until the name is correct, then press **ENT**|**ENT**. **B.** Or you can jump down to the lower selection list by pressing **ENT**, then press ↓↑ to select a waypoint from the list, then press **ENT**. The waypoint information screen appears.
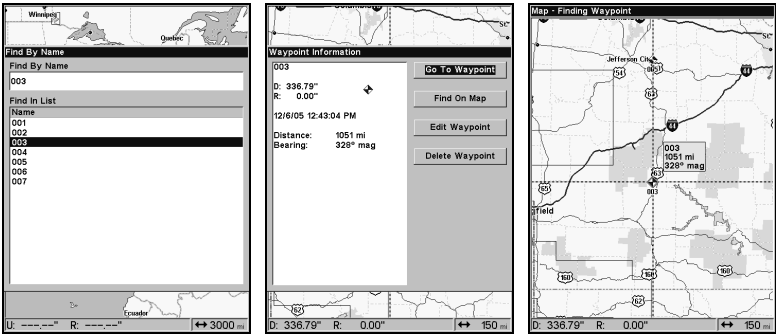
Find By Name menu (left). Waypoint Information screen (center). The cursor crosshairs are centered on the desired waypoint (right).

A. *To navigate* to the waypoint, press **ENT**. The Go To Waypoint command is already highlighted. The unit will show navigation information to the waypoint.

B. *To find* the waypoint, press ↓ to **FIND ON MAP|ENT**. The Map Page appears with the cursor crosshairs centered on the found waypoint.

Notes

Section 7: Supplemental Material Datums Used by This Unit

WGS 1984
Default

Adindan
Mean for Ethiopia,
Sudan

Adindan
Burkina Faso

Adindan
Cameroon

Adindan
Ethiopia

Adindan
Mali

Adindan
Senegal

Adindan
Sudan

Afgooye
Somalia

Ain el Abd 1970
Bahrain

Ain el Abd 1970
Saudi Arabia

Anna 1 Astro 1965
Cocos Islands

Antigua Island Astro
1943; Antigua (Lee-
ward Islands)

Arc 1950; Mean for
Botswana, Lesotho,
Malawi, Swaziland,

Zaire, Zambia and
Zimbabwe

Arc 1950 - Botswana

Arc 1950 - Burundi

Arc 1950 - Lesotho

Arc 1950 - Malawi

Arc 1950 - Swaziland

Arc 1950 - Zaire

Arc 1950 - Zambia

Arc 1950 - Zimbabwe

Arc 1960 - Mean for
Kenya, Tanzania

Ascension Island
1958 - Ascension
Island

Astro Beacon E 1945
- Iwo Jima

Astro DOS 71/4 - St.
Helena Island

Astro Tern Island
(FRIG) 1961 - Tern
Island

Astronomical Station
1952 - Marcus Island

Australian Geodetic
1966 - Australia &
Tasmania

Australian Geodetic
1984 - Australia &
Tasmania

Ayabelle Lighthouse -
Djibouti

Bellevue (IGN) -
Efate & Erromango
Islands

Bermuda 1957 -
Bermuda

Bissau - Guinea-
Bissau
Bogota Observatory -
Colombia

Bukit Rimpah - Indo-
nesia (Bangka & Be-
litung Islands)

Camp Area Astro -
Antarctica (McMurdo
Camp Area)

Campo Inchauspe -
Argentina

Canton Astro 1966 -
Phoenix Islands

Cape - South Africa

Cape Canaveral -
Bahamas, Florida

Carthage - Tunisia

Switzerland

Chatham Island Astro
1971; New Zealand
(Chatham Island)

Chua Astro
Paraguay

Corrego Alegre
Brazil

Dabola
Guinea

Djakarta (Batavia)
Indonesia (Sumatra)

DOS 1968
New Georgia Islands
(Gizo Island)

Easter Island 1967
Easter Island

European 1950
Mean for Austria,
Belgium, Denmark,
Finland, France,
West Germany, Gi-
braltar, Greece, Italy,
Luxembourg, Neth-
erlands, Norway,
Portugal, Spain,
Sweden, Switzerland

European 1950
Mean for Austria,
Denmark, France,
West Germany,
Netherlands, Swit-
zerland

European 1950
Mean for Iraq, Israel,
Jordan, Lebanon,
Kuwait, Saudi Arabia,
Syria

European 1950
Cyprus

European 1950
Egypt

European 1950
England, Channel
Islands, Ireland,
Scotland, Shetland
Islands

European 1950
Finland, Norway

European 1950
Greece

European 1950
Iran

European 1950
Italy (Sardinia)

European 1950
(Sicily)

European 1950
Malta

Ireland 1965
Ireland

ISTS 061 Astro 1968
South Georgia Is-
lands

ISTS 073 Astro 1969
Diego Garcia

Johnston Island 1961
Johnston Island

Kandawala
Sri Lanka

Kerguelen Island
1949
Kerguelen Island

Kertau 1948
West Malaysia &
Singapore

Kusaie Astro 1951
Caroline Islands

L.C. 5 Astro 1961
Cayman Brac Island

Leigon
Ghana

Liberia 1964
Liberia

Luzon
Philippines (Exclud-
ing Mindanao)

Luzon
Philippines (Min-
danao)

Mahe 1971
Mahe Island

Massawa
Ethiopia (Eritrea)

Merchich
Morocco

Midway Astro 1961
Midway Islands

Minna
Cameroon

Minna
Nigeria

Montserrat Island
Astro 1958; Montser-
rat (Leeward Islands)

M'Poraloko
Gabon, Nahrwan,
Oman (Masirah Is-
land)

Nahrwan
Saudi Arabia

Nahrwan
United Arab Emirates

Naparima BWI
Trinidad & Tobago

North American 1927
Mean for Antigua,
Barbados, Barbuda,
Caicos Islands,
Cuba, Dominican
Republic, Grand
Cayman, Jamaica,
Turks Islands

North American 1927
Mean for Belize,
Costa Rica, El Sal-
vador, Guatemala,
Honduras, Nicaragua

North American 1927
Mean for Canada

North American 1927
Mean for CONUS
(Continental United
States)
North American 1927
Mean for CONUS
(East of Mississippi
River) including Lou-
isiana, Missouri, Min-
nesota

North American 1927
Mean for CONUS
(West of Mississippi
River)

North American 1927
Alaska

North American 1927
Bahamas (Except
San Salvador Island)

North American 1927
Bahamas (San Sal-
vador Island)

North American 1927
Canada (Alberta,
British Columbia)

North American 1927
Canada (Manitoba,
Ontario)

North American 1927
Canada (New
Brunswick, New-
foundland, Nova
Scotia, Quebec)

North American 1927
Canada (Northwest
Territories, Sas-
katchewan)

North American 1927
Canada (Yukon)

North American 1927
Canal Zone

North American 1927
Cuba

North American 1927
Greenland (Hayes
Peninsula)

North American 1927
Mexico

North American 1983
Alaska, Canada,
CONUS

North American 1983
Central America,
Mexico

Observaorio Metereo
1939; Azores (Corvo
& Flores Islands)

Old Egyptian 1907
Egypt

Old Hawaiian
Mean for Hawaii,
Kauai, Maui, Oahu

Old Hawaiian
Hawaii

Old Hawaiian
Kauai

Old Hawaiian
Maui

Old Hawaiian
Oahu

Oman
Oman

Ordinance Survey
Great Britain 1936 -
Mean for England,
Isle of Man, Scotland,
Shetland Islands,
Wales

Ordinance Survey
Great Britain 1936 -
England

Ordinance Survey
Great Britain 1936 -
England, Isle of Man,
Wales

Ordinance Survey
Great Britain 1936 -
Scotland, Shetland
Islands

Ordinance Survey
Great Britain 1936 -
Wales

Pico de las Nieves
Canary Islands

Pitcairn Astro 1967
Pitcairn Island

Point 58

Sweden

Santo (DOS)
1965 Espirito Santo
Island

Sao Braz
Azores (Sao Miguel,
Santa Maria Islands)

Sapper Hill 1943
East Falkland Island

Schwarzeck
Nambia

Selvagem Grande
Salvage Islands

SGS 85
Soviet Geodetic
System 1985

South American 1969
Mean for Argentina,
Bolivia, Brazil, Chile,
Colombia, Ecuador,
Guyana, Paraguay,
Peru, Trinidad & To-
bago, and Venezuela

South American 1969
Argentina

South American 1969
Bolivia

South American 1969
Brazil

South American 1969
Chile

South American 1969
Colombia

South American 1969
Ecuador

South American 1969
Ecuador (Baltra, Ga-
lapagos)

South American 1969
Guyana

South American 1969
Paraguay
South American 1969
Peru

South American 1969
Trinidad & Tobago

South American 1969
Venezuela

South Asia

Singapore

Tananarive Obser-
vatory 1925; Mada-
gascar

Timbalai 1948
Brunei, East Malay-
sia (Sabah, Sarawak)

Tokyo
Mean for Japan, Ko-
rea, Okinawa

Tokyo
Japan

Tokyo
Korea

Tokyo

Okinawa

Tristan Astro 1968
Tristan da Cunha

Viti Levu 1916
Fiji (Viti Levu Island)

Wake

Eniwetok 1960

Marshall Islands

Wake Island Astro
1952
Wake Atoll

WGS 1972
Global Definition

Yacare
Uruguay

Zanderij
Suriname

Notes

Notes

Notes

FCC Compliance

This device complies with Part 15 of the U.S. Federal Communications Commission (FCC) Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the factory customer service department for help.

EAGLE DATABASES LICENSE AGREEMENT

THIS IS a LEGAL AGREEMENT BETWEEN THE END-USER WHO FIRST PURCHASES THIS PRODUCT AS a CONSUMER ITEM FOR PERSONAL, FAMILY, OR HOUSEHOLD USE ("YOU") AND EAGLE ELECTRONICS, a DIVISION OF LEI, THE MANUFACTURER OF THIS PRODUCT ("WE", "OUR", OR "US"). USING THE PRODUCT ACCOMPANIED BY THIS LICENSE AGREEMENT CONSTITUTES ACCEPTANCE OF THESE TERMS AND CONDITIONS. IF YOU DO NOT ACCEPT ALL TERMS AND CONDITIONS, PROMPTLY RETURN THE PRODUCT WITHIN 30 DAYS OF PURCHASE. PLEASE RETURN USING THE ENCLOSED UPS SHIPPING LABEL AND INCLUDE: PROOF OF PURCHASE, NAME, ADDRESS, AND PHONE NUMBER. YOUR PURCHASE PRICE AND ANY APPLICABLE TAXES WILL BE REFUNDED. PLEASE ALLOW 4-6 WEEKS TO PROCESS YOUR REFUND.

1. This License Agreement applies to the one or more databases that your product may contain. We refer to these singly as a "Database" and together as the "Databases." Your product may thus include the "WBS Database" which contains worldwide background surface mapping data, the "SmartMap Database" which contains inland mapping data, or other Databases.

2. The Databases that your product may contain are licensed, not sold. We grant to you the nonexclusive, nonassignable right to use these Databases for supplemental navigation reference purposes, but only as long as you comply with the terms and conditions of this License Agreement. We reserve the right to terminate this license if you violate any aspect of this License Agreement. You are responsible for using official government charts and prudent navigation for safe travel.

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4. This License Agreement will terminate immediately without prior notice from us if you fail to comply with or violate any of the provisions of this Agreement. Upon termination, you will promptly return all products containing one or more Databases to us.

5. Prices and programs are subject to change without notice.

6. This License Agreement shall be governed by the laws of the State of Oklahoma and comprises the complete and exclusive understanding between you and us concerning the above subject matter.

DATABASES LIMITED WARRANTY

"We", "our", or "us" refers to Eagle Electronics, a division of LEI, the manufacturer of this product. "You" or "your" refers to the first person who purchases the product as a consumer item for personal, family, or household use. The Databases Limited Warranty applies to the one or more databases that your product may contain. We refer to each of these as a "Database" or together as the "Databases." Your product may thus include the "WBS Database" which contains worldwide background surface mapping data, the "SmartMap Database" which contains inland mapping data, or other Databases.

We warrant to you that we have accurately compiled, processed, and reproduced the portions of the source material on which the Databases are based. However, we are under no obligation to provide updates to the Databases, and the data contained in the Databases may be incomplete when compared to the source material. WE MAKE NO EXPRESS OR IMPLIED WARRANTY OF ANY KIND ABOUT THE ACCURACY OF THE SOURCE MATERIAL ITSELF, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR a PARTICULAR PURPOSE.

If there is a defect in any Database, your exclusive remedy shall be, at our option, either a refund of the price you paid for the product containing the defective Database or a replacement of such product. WE WILL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO ANYONE FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, OR OTHER INDIRECT DAMAGE OF ANY KIND.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

This warranty does NOT apply in the following circumstances: (1) when the product has been serviced or repaired by anyone other than us, (2) when the product has been connected, installed, combined, altered, adjusted, or handled in a manner other than according to the instructions furnished with the product, (3) when any serial number has been effaced, altered, or removed, or (4) when any defect, problem, loss, or damage has resulted from any accident, misuse, negligence, or carelessness, or from any failure to provide reasonable and necessary maintenance in accordance with the instructions of the owner's manual for the product.

We reserve the right to make changes or improvements in our products from time to time without incurring the obligation to install such improvements or changes on equipment or items previously manufactured.

This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.

Your remedies under this warranty will be available so long as you can show in a reasonable manner that the defect occurred within one (1) year from the date of your original purchase, and we must receive your warranty claim no later than 30 days after such 1-year period expires. Your claim must be substantiated by a dated sales receipt or sales slip.

EAGLE ELECTRONICS
FULL ONE-YEAR WARRANTY

"We," "our," or "us" refers to EAGLE ELECTRONICS, a division of LEI, the manufacturer of this product. "You" or "your" refers to the first person who purchases this product as a consumer item for personal, family, or household use.

We warrant this product against defects or malfunctions in materials and workmanship, and against failure to conform to this product's written specifications, all for one (1) year from the date of original purchase by you. WE MAKE NO OTHER EXPRESS WARRANTY OR REPRESENTATION OF ANY KIND WHATSOEVER CONCERNING THIS PRODUCT. Your remedies under this warranty will be available so long as you can show in a reasonable manner that any defect or malfunction in materials or workmanship, or any non-conformity with the product's written specifications, occurred within one year from the date of your original purchase, which must be substantiated by a dated sales receipt or sales slip. Any such defect, malfunction, or non-conformity which occurs within one year from your original purchase date will either be repaired without charge or be replaced with a new product identical or reasonably equivalent to this product, at our option, within a reasonable time after our receipt of the product. If such defect, malfunction, or non-conformity remains after a reasonable number of attempts to repair by us, you may elect to obtain without charge a replacement of the product or a refund for the product. THIS REPAIR, OR REPLACEMENT OR REFUND (AS JUST DESCRIBED) IS THE EXCLUSIVE REMEDY AVAILABLE TO YOU AGAINST US FOR ANY DEFECT, MALFUNCTION, OR NON-CONFORMITY CONCERNING THE PRODUCT OR FOR ANY LOSS OR DAMAGE RESULTING FROM ANY OTHER CAUSE WHATSOEVER. WE WILL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO ANYONE FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, OR OTHER INDIRECT DAMAGE OF ANY KIND.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

This warranty does NOT apply in the following circumstances: (1) when the product has been serviced or repaired by anyone other than us; (2) when the product has been connected, installed, combined, altered, adjusted, or handled in a manner other than according to the instructions furnished with the product; (3) when any serial number has been effaced, altered, or removed; or (4) when any defect, problem, loss, or damage has resulted from any accident, misuse, negligence, or carelessness, or from any failure to provide reasonable and necessary maintenance in accordance with the instructions of the owner's manual for the product.

We reserve the right to make changes or improvements in our products from time to time without incurring the obligation to install such improvements or changes on equipment or items previously manufactured.

This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.

REMINDER: You must retain the sales slip or sales receipt proving the date of your original purchase in case warranty service is ever required.

EAGLE ELECTRONICS
PO BOX 669, CATOOSA, OK 74015
(800) 324-1354

How to Obtain Service...
...in the USA:

We back your investment in quality products with quick, expert service and genuine Eagle replacement parts. If you're in the United States and you have technical, return or repair questions, please contact the Factory Customer Service Department. Before any product can be returned, you must call customer service to determine if a return is necessary. Many times, customer service can resolve your problem over the phone without sending your product to the factory. To call us, use the following toll-free number:

800-324-1354
8 a.m. to 5 p.m. Central Standard Time, M-F

Eagle Electronics may find it necessary to change or end our shipping policies, regulations, and special offers at any time. We reserve the right to do so without notice.

...in Canada:

If you're in Canada and you have technical, return or repair questions, please contact the Factory Customer Service Department. Before any product can be returned, you must call customer service to determine if a return is necessary. Many times, customer service can resolve your problem over the phone without sending your product to the factory. To call us, use the following toll-free number:

800-661-3983
905-629-1614 (not toll-free)
8 a.m. to 5 p.m. Eastern Standard Time, M-F

...outside Canada and the USA:

If you have technical, return or repair questions, contact the dealer in the country where you purchased your unit. To locate an Eagle dealer near you, visit our web site at www.eaglegps.com or consult your telephone directory for listings.

Accessory Ordering Information for all countries

To order Eagle accessories such as power cables or transducers, please contact:

1) Your local marine dealer or consumer electronics store. Most quality dealers that handle marine electronic equipment or other consumer electronics should be able to assist you with these items.

To locate an Eagle dealer near you, visit our web site, www.eaglesonar.com and look for the Dealer Locator. Or, you can consult your telephone directory for listings.

2) U.S. customers: LEI Extras Inc., PO Box 129, Catoosa, OK 74015-0129 Call 1-800-324-0045 or visit our web site www.lei-extras.com.

3) Canadian customers can write:
Lowrance/Eagle Canada, 919 Matheson Blvd. E. Mississauga, Ontario L4W2R7 or fax 905-629-3118.

Shipping Information

If it becomes necessary to send a product for repair or replacement, you must first receive a return authorization number from Customer Service. Products shipped without a return authorization will not be accepted. When shipping, we recommend you do the following:

1. Please do not ship the knobs or mounting bracket with your unit.

2. If you are sending a check for repair, please place your check in an envelope and tape it to the unit.

3. For proper testing, include a brief note with the product describing the problem. Be sure to include your name, return shipping address and a daytime telephone number. An e-mail address is optional but useful.

4. Pack the unit in a suitable size box with packing material to prevent any damage during shipping.

5. Write the Return Authorization (RA) number on the outside of the box underneath your return address.

6. For your security, you may want to insure the package through your shipping courier. Eagle does not assume responsibility for goods lost or damaged in transit.

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